

THE FOOD, AGRIBUSINESS AND RURAL MARKETS (FARM) PROJECT

Annual Report FY 2014:

October 1, 2013–September 30, 2014

Contract No.: EDH-I-00-05-00005-00, Task Order No. 16



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TABLE OF CONTENTS

| | |
|---|-----------|
| LIST OF TABLES | 6 |
| LIST OF FIGURES | 6 |
| ACRONYMS | 7 |
| EXECUTIVE SUMMARY | 8 |
| 1. INTRODUCTION..... | 10 |
| 2. PROJECT MANAGEMENT AND SCOPE | 13 |
| 2.1. Management and Staffing..... | 13 |
| 2.1.1. Evacuation of Expatriate Staff Members—December 2013..... | 13 |
| 2.1.2. Managing the Project During the Evacuation Period: January 15 to April 17, 2014..... | 13 |
| 2.1.3. Staffing Changes | 13 |
| 2.2. Shifts in Technical and Geographic Scope..... | 14 |
| 2.2.1. FY 2014 Work Plan..... | 14 |
| 2.2.2. Revised FY 2014 Work Plan | 14 |
| 2.3. Security..... | 15 |
| 3. COMPONENT 1: PRODUCTION AND PRODUCTIVITY | 16 |
| 3.1. Community Organizations and FBO Formation..... | 17 |
| 3.2. Yield Assessment Results..... | 18 |
| 3.3. Seed Selection and Distribution | 18 |
| 3.4. Plowing and Harrowing | 20 |
| 3.5. Block Farming | 22 |
| 3.6. Seed Multiplication..... | 24 |
| 3.7. County and Payam Demonstrations | 24 |
| 3.8. Post-harvest Storage | 25 |
| 4. COMPONENT 2: TRADE AND MARKETING | 26 |
| 4.1. Cooperative Development..... | 27 |

| | |
|--|-----------|
| 4.1.1. Cooperative Union Formation..... | 28 |
| 4.1.2. Cooperative Training..... | 29 |
| 4.2. Agricultural Trade Fairs..... | 29 |
| 4.3. Market Information Systems | 30 |
| 4.4. Farmer/Trader Forums..... | 31 |
| 4.5. Grain Processing and Value Addition..... | 31 |
| 4.6. Market Opportunity Development and Facilitation | 32 |
| 4.7. Financing and Capital Dilemma..... | 34 |
| 5. COMPONENT 3: CAPACITY BUILDING..... | 35 |
| 5.1. Good Agricultural Practices and Seed Distribution Training..... | 36 |
| 5.2. Training Needs Assessment for Extension Services..... | 37 |
| 5.3. Post-Harvest Handling and Storage Management Training..... | 38 |
| 5.4. Farmer-to-farmer Field visits..... | 38 |
| 6. CROSS-CUTTING ACTIVITIES..... | 39 |
| 6.1. Policy, Legislation, and Regulatory Framework | 39 |
| 6.2. Collaboration and Partnering Opportunities | 41 |
| 6.3. Gender..... | 42 |
| 6.4. Grants..... | 43 |
| 6.4.1. Seed Grants..... | 43 |
| 6.4.2. Plowing Grants | 44 |
| 6.4.3. Block Farm Grants | 45 |
| 7. MONITORING AND EVALUATION..... | 46 |
| 7.1. Yield Assessments..... | 46 |
| 7.2. Farmer Profile Survey | 46 |
| 7.3. Project Results Indicators..... | 47 |
| 8. CONSTRAINTS..... | 51 |
| 9. RECOMMENDATIONS | 53 |

LIST OF TABLES

| | |
|--|----|
| Table 1: Old and New FBOs in the Three Equatoria States (Including Gender Breakdown), FY 2014..... | 17 |
| Table 2: Number of FBOs and their Members who Received Seeds in 2014 | 19 |
| Table 3: Summary of FBOs and Seeds Received and Planted by Farmers during FY 2014..... | 20 |
| Table 4: Status of Plowing and Harrowing Support by County, FY 2014..... | 21 |
| Table 5: Feddans Plowed with FARM Project Support, FY 2011–FY 2014 | 22 |
| Table 6: Cooperative Unions Supported by FARM, FY 2014 | 29 |
| Table 7: Number of Cooperative Union Members Trained to Operate and Maintain Processing Equipment..... | 32 |
| Table 8: Sales of Maize Grain from Cooperative Societies and Associations to the World Food Programme from 2013 Harvest | 33 |
| Table 9: Project Training Statistics, FY 2014..... | 35 |
| Table 10: List of Payam-Level GAP Trainings Conducted in FY 2014 | 36 |
| Table 11: Status Report of Policy Documents..... | 39 |
| Table 12: Grants Awarded During FY 2014 | 43 |
| Table 13: Key Indicators for Household Expenditure for the 2013 Season, in SSP | 47 |
| Table 14: Monitoring of Actual Results versus Established Performance Indicator Targets FY 2014 | 48 |

LIST OF FIGURES

| | |
|--|----|
| Figure 1: Map of the FARM Project's Service Area..... | 11 |
| Figure 2: FBO-Cooperative Society-Cooperative Union Framework..... | 28 |

ACRONYMS

| | |
|-------------------|---|
| AGRA | Alliance for a Green Revolution for Africa |
| CES | Central Equatoria State |
| CO | Contracting Officer |
| COP | Chief of Party |
| COR | Contracting Officer's Representative |
| CRS | Catholic Relief Services |
| CSERD | Country Security and Emergency Response Director |
| DCOP | Deputy Chief of Party |
| EES | Eastern Equatoria State |
| FAO | Food and Agriculture Organization |
| FARM | Food, Agribusiness and Rural Markets Project |
| FBO | Farmer-based organization |
| GAP | Good agronomic practices |
| GIZ | German Society for International Cooperation |
| GPS | Global positioning system |
| ha | Hectare |
| ICT | Information and communication technology |
| IPM | Integrated pest management |
| kg | Kilogram |
| M&E | Monitoring and evaluation |
| MAFTARFCRD | Ministry of Agriculture, Forestry, Tourism, Animal Resources, Fisheries, Cooperatives and Rural Development |
| MT | Metric ton |
| NAFA | Nzara Agricultural Farmers' Association |
| NEAT | National Effort for Agricultural Transformation |
| P4P | Purchase for Progress |
| RAISE Plus | Raising Rural and Agricultural Incomes with a Sustainable Environment |
| RSS | Republic of South Sudan |
| SSNBS | South Sudan National Bureau of Standards |
| USAID | United States Agency for International Development |
| WFP | World Food Programme |
| WES | Western Equatoria State |
| YAFA | Yambio Farmers' Association |

EXECUTIVE SUMMARY

The Food, Agribusiness and Rural Markets (FARM) Project began FY 2014 with strong momentum established during the previous year. The project had achieved significant gains in agricultural production during FY 2013 as it continued to scale up the number of beneficiaries receiving support. Farmer productivity also continued to rise due to use of certified seeds, increased adoption of the good agronomic practices (GAP) promoted by the project, and good rains during the planting seasons. More farmers began to grow surplus crops, extending production beyond their immediate subsistence needs. This made supply available to create a market for staple crops produced in South Sudan's Greenbelt agro-ecological zone.

The FARM project laid substantive groundwork during FY 2014 toward the development of markets for staple crops. Seven cooperative unions, in six of the project's nine target counties, were identified and created with help from FARM. Two additional farmer associations also received project support. The project expanded its market and business plan training for these organizations and their members and helped the cooperatives aggregate some surplus production to bulk sell to the World Food Programme (WFP) Purchase for Progress (P4P) initiative. Market development activities included training on value-addition processing in areas such as cassava chipping. In addition, the project introduced mechanized maize and groundnut shelling, sorghum threshing, and cassava grating—the first time these new technologies have been used in the Equatoria states.

Entering the fiscal year, the FARM project was well-positioned to respond to the Republic of South Sudan's National Effort for Agricultural Transformation (NEAT) initiative, a national plan to bolster the commercial agricultural sector for economic development. As called for in the initiative, FARM was ready to continue developing block farming in Eastern Equatoria State (EES), distributing entrepreneurial grants in agriculture in Central Equatoria State (CES), and developing cooperative unions in Western Equatoria State (WES), as well as providing core leadership staff to administer NEAT at the national level within the ministry.

The dissolution of the government in July 2013 and the subsequent reorganization of the ministry delayed and moved the emphasis away from the NEAT initiative in FY 2014. Furthermore, the conflict that broke out on December 15, 2013, significantly altered FARM's priorities and made the operating environment of this already-challenging project even more difficult. All expatriate staff were evacuated from South Sudan by December 23, 2013. Despite the evacuation, the FARM project was one of the few agriculture and development programs that continued to operate during the crisis. All South Sudanese staff returned to their work locations by the middle of January and the Chief of Party and Deputy Chief of Party established a temporary office in Nairobi to oversee and coordinate day-to-day operations, with assistance from the Abt Associates home office. Other expatriates, scattered in their home countries, coordinated with assigned staff and project management through email and Skype.

As its emphasis changed from commercial and market development toward household resiliency and preservation of the gains made in FY 2013, the project primarily focused for the remainder of the fiscal year on continuing to support smallholder farmers and furthering the Greenbelt's gains in crop production and aggregation. In this new environment, it was essential for the FARM project to maintain its annual seed distribution program and its GAP training for farmer beneficiaries, since these activities have made a significant impact on crop production in the region. As Greenbelt farmers continued to build up surplus production, it was also critically important to maintain aggregation support through farmer organizations and to help these organizations develop markets for their bulk crops. This work

extended throughout the expatriate evacuation period, which ended in late April 2014, and remained ongoing through the end of the fiscal year.

The FARM project's most notable accomplishments during the reporting period included the following:

- *Scaling up the total number of project-supported FBOs to 574—a 15 percent increase over the FY 2013 level of 499.* The project achieved a 22 percent increase over the FY 2013 number of farmer beneficiaries (10,830). A total of 13,204 farmers have received direct assistance from FARM since project inception.
- *Continuing to foster the adoption of hybrid seed varieties for improved yields* by procuring 217,500 kilograms (kg) of improved certified seed for distribution, including 40,000 kg of maize, 122,500 kg of groundnuts, 45,000 kg of beans, 3,000 kg of sesame, 2,000 kg of millet, and 5,000 kg of upland rice. Under significant time constraints and difficult conditions, the project partnered with local cooperative societies in a complex logistics exercise to distribute this seed to 8,308 farmers and 310 FBOs in FARM's nine target counties during April and May 2014. There was a much smaller distribution during August 2014.
- *Providing plowing and harrowing grants to 89 FBOs*, enabling them to prepare 896 feddans (376 hectares) of agricultural land for planting, representing a 21 percent increase from the previous year.
- *Supporting start-up of seven nascent cooperative unions*, which are intended to be the primary aggregators and bulk sellers of smallholder produce in the project's service area. FARM continued to deliver a package of technical assistance, training, and limited material support to the unions. Five cooperative unions received training on post-harvest processing equipment during FY 2013 and FY 2014.
- *Assisting project-supported cooperative unions and associations to complete an initial bulk sale of 239,600 kg of maize to the WFP's P4P program.* Relationships between the unions and the WFP were established for much larger purchases for the 2014 harvest season. The project carried out initial work to improve produce quality to meet WFP standards by supporting testing and better storage.
- *Facilitating state agricultural trade shows in EES and WES*, which provided a valuable forum for farmers and farming groups to access markets to sell their produce, purchase necessary inputs, and develop the business linkages needed for future market development.
- *Expanding the market information pilot program to all 27 payams.* Project staff acquire and analyze agricultural market information using mobile phone technology. This system is designed to strengthen the linkages among farmers, cooperatives, traders, business, and government and is intended to be a fully functional and open platform in FY 2015.

I. INTRODUCTION

South Sudan covers an area of about 640,000 square kilometers and includes stretches of tropical and equatorial forests, wetlands, savannah, and mountains. Despite areas of rich soil and growing conditions, the country's agricultural sector is faced with numerous constraints at many levels. High poverty rates, low purchasing power, and depleted assets due to long years of conflict affect the ability of many rural South Sudanese to invest in agriculture. While agronomic potential is great for a wide variety of high- and low-value crops and livestock, the lack of many supporting markets and services presents major challenges.

On February 18, 2010, under the Raising Rural and Agricultural Incomes with a Sustainable Environment (RAISE-Plus) Indefinite Quantity Contract, the United States Agency for International Development (USAID)/South Sudan awarded Task Order No. 16 to Abt Associates Inc. for implementation of the five-year Food, Agribusiness and Rural Markets (FARM) project. The project is designed to increase sustained agricultural productivity in selected commodities, increase trade, and improve the capacity of producers and private sector and public sector actors in South Sudan to develop market-led smallholder agriculture. It operates in South Sudan's Greenbelt, a broad swath of high-potential agricultural land traversing the southern-most counties of Western Equatoria State (WES), Central Equatoria State (CES), and Eastern Equatoria State (EES). The project has its main office in Juba, with additional offices in the state capitals of Yambio in WES and Torit in EES, as well as an office in Yei in the southeastern area of CES.

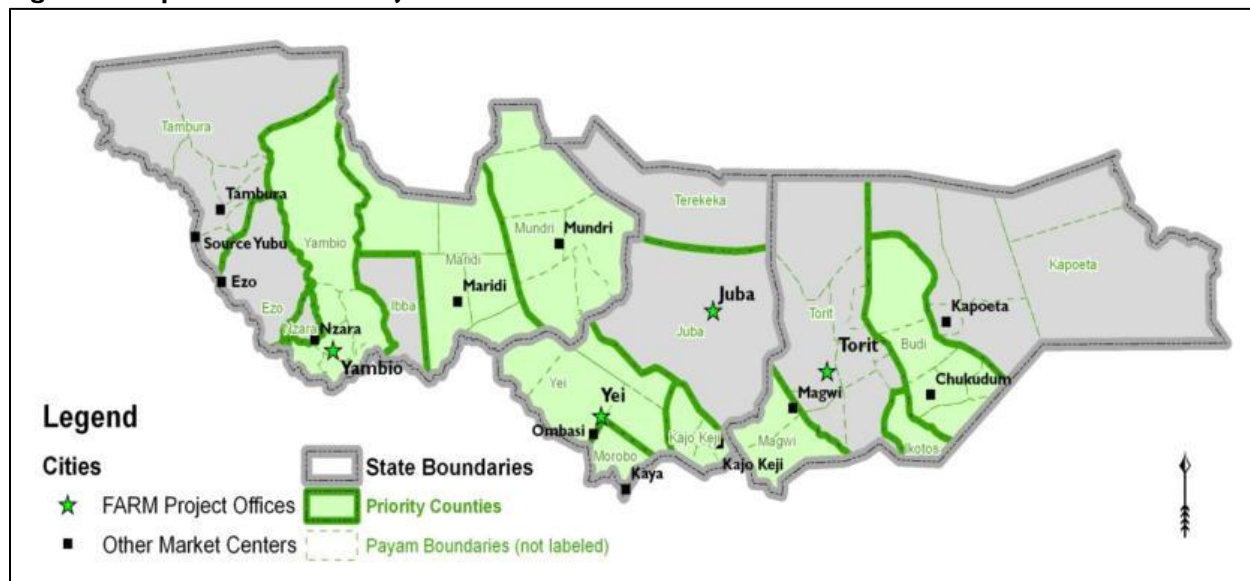


Photo: Michael Godfrey, Abt Associates

The savannah landscape in Morobo County in Central Equatoria State

The FARM project currently works in three counties in each of the three Equatoria states. In each county, the project works in three payams (local sub-county districts), as shown in Figure 1. Altogether, therefore, it operates in nine counties and 27 payams. This service area has not changed since it was established during the project's first year.

Figure 1: Map of the FARM Project's Service Area



Due to the undeveloped nature of South Sudan's agricultural sector, FARM has focused on staple crops, including maize, sorghum, cassava, and groundnuts. Over time, sorghum was de-emphasized since it is generally not a preferred crop in the Greenbelt. Since sufficient supply of cassava stem is now available in the Equatoria states due to project support, cassava has also been de-emphasized beginning this fiscal year. Beans were added to the crop mix in FY 2013 due to farmer preferences and because of their nutritional value; they were further emphasized during this reporting period. With these changes, maize, beans, and groundnuts became the project's primary crops for this fiscal year. As in FY 2013, small amounts of millet, upland rice, and sesame seed were also procured for distribution to a small group of smallholder farmers.

The uncertain security and political situation in South Sudan and the revised strategic objectives of the mission led USAID/South Sudan to request that the project propose a modified work plan in late January 2014 in order to incorporate the mission's revised priorities in the areas of conflict mitigation, recovery, and resiliency, and to support better overall development, social cohesion, and nation-building. The mission asked FARM to concentrate on holding onto existing key activities, particularly the agricultural production and farmer group work, rather than ramping up new ones. The project was further advised that the mission's strategic framework would be short-term in nature. USAID requested that the project limit direct interactions with the national government to administrative actions while continuing to working with local government counterparts, particularly at the boma and county levels.

The project laid a strong foundation for agricultural production and community producer organization development during its initial years. The next step toward fostering a sustainable agricultural sector in South Sudan was to emphasize markets and commercial development. Accordingly, FARM intensified its work in these areas during FY 2014. The plan for the year was to support implementation of South Sudan's National Effort for Agricultural Transformation (NEAT) initiative and lead the formation of cooperative unions to serve as aggregators and bulk sellers of smallholder produce in the Equatorias.

As the project's priorities evolved from commercial and economic development toward solidifying gains and strengthening resiliency during this fiscal year, it remains vitally important to continue to assist smallholder farmers and develop markets for their surplus produce. With the highly uncertain and difficult conditions that prevailed during FY 2014, it was paramount for the project to implement the annual seed distribution program and continue good agronomic practices (GAP) training for farmers. As

surplus production without market access would waste any gains achieved by Greenbelt farmers, it is equally important to develop aggregation and bulk selling capacity within the region during this critical stage of the value chain development process. By making adjustments and accommodations during the evacuation period, the project was able to continue its work in the Greenbelt during this very challenging fiscal year.

The remainder of this report covers in more detail the FARM project's activities between October 1, 2013, and September 30, 2014. Chapter 2 addresses critical changes in project leadership and management. Chapters 3 through 5 discuss activities during the reporting period under the three major technical components: 1) production and productivity, 2) trade and marketing, and 3) capacity building. Chapter 6 covers activities under cross-cutting themes and Chapter 7 reviews monitoring and evaluation activities.

2. PROJECT MANAGEMENT AND SCOPE

2.1. MANAGEMENT AND STAFFING

The internecine conflict that erupted in South Sudan in mid-December 2013 significantly altered the project's operations, management, and staffing.

2.1.1. Evacuation of Expatriate Staff Members—December 2013

After fighting broke out between units of the Presidential Guard in Juba on December 15, 2013, Abt Associates arranged a charter flight to evacuate the project's expatriate staff from South Sudan. The Chief of Party (COP) was the last to leave, on December 23 on a commercial flight, after he ensured an orderly close-down of the project office.

2.1.2. Managing the Project During the Evacuation Period: January 15 to April 17, 2014

In spite of the prevailing uncertainty, the project's local national staff began reporting to their work sites after the first of the year. On January 10, 2013, once major roads were secured in the Equatoria states, field activities resumed. By mid-January, all South Sudanese staff had reported for duty. Project assets remained intact during the conflict.

During the evacuation period, project management, with USAID approval, established a small office in a hotel in Nairobi, Kenya. From this location, the COP and the Deputy Chief of Party (DCOP) managed activities remotely by telephone, email, and courier services. All other expatriate staff remained in approved locations in the U.S. or in their countries of residence; from these remote locations, they established regular contact with supervisors and staff members by telephone or email to manage activities.

On April 17, 2014, the Contracting Officer (CO) authorized the expatriate project team to return to South Sudan, provided that Abt Associates deemed the situation safe enough. Abt gave the authorization for expatriates to return to post, and all were back in South Sudan by early May.

2.1.3. Staffing Changes

A number of staffing changes were made during the annual reporting period:

- The Central Equatoria State Coordinator resigned her position effective November 13, 2013.
- The new position of Grants and Administrative Officer, designed to boost grants and administrative management capacity, was approved by USAID and filled on November 12, 2013.
- A new DCOP was hired in December 2013 but was unable to be posted to Juba due to the conflict. She was authorized in January to work in Nairobi on evacuation status. She arrived in Juba to take up her post on April 28, 2014.
- The COP resigned on February 7, 2014. The Private Sector and Value Chain Specialist assumed the role of Acting COP from February through September 15, 2014.

- The Capacity Building Coordinator for CES passed away suddenly in the early morning hours of March 26, 2014.
- The Western Equatoria State Coordinator resigned and returned to the U.S. on July 31, 2014. The project has identified a replacement, pending USAID approval.
- A new Central Equatoria State Coordinator and Senior Information and Communications Technology (ICT) Advisor was approved by the CO on August 6, 2014. She arrived in South Sudan on August 19, 2014.
- The first Country Security and Emergency Response Director (CSERD), a new position under subcontract to Risk and Security Management Consulting (RSM), arrived in Juba for the first rotation on September 12, 2014. A second CSERD will begin his rotation on November 14, 2014.
- The new COP arrived Juba on September 16, 2014.



Photo: Michael Godfrey, Abt Associates

FARM staff interviewing members of the Morobo County Cooperative at their shared farmland

The project is currently recruiting to fill 11 South Sudanese positions that have been vacated since the evacuation period.

2.2. SHIFTS IN TECHNICAL AND GEOGRAPHIC SCOPE

2.2.1. FY 2014 Work Plan

In November 2013, USAID approved the FY 2014 annual work plan with a detailed schedule of activities. The main thrust of these activities was to continue agricultural production support while increasing interventions to strengthen the FBO–cooperative society–cooperative union framework. This would greatly increase the efficiency of various food crop value chains by providing an effective mechanism to aggregate the surplus production of smallholder producers and thereby enable bulk marketing of food crops. At the end of the first quarter, implementation of the work plan was interrupted by the internecine conflict, which began in the middle of December 2013.

2.2.2. Revised FY 2014 Work Plan

On February 4, 2014, the Economic Growth team of USAID/South Sudan held a meeting in Washington to discuss a short-term strategy for program implementation in South Sudan. The Contracting Officer's Representative (COR) highlighted cross-cutting objectives that USAID would like to see incorporated into a revised three- to six-month work plan. They were:

- Conflict mitigation
- Recovery/resiliency
- Foundations for development, including social cohesion and nation-building

The COR added a cautionary note: *“Particularly for any proposed new activities, we will need to see strong considerations towards the new security situation, particularly how you will keep staff safe and assets protected.”*

Project management responded to the USAID initiative with a revised FY 2014 annual work plan that aimed to:

- Identify previously approved activities that also fell within the three new areas of focus, which FARM would continue to implement
- Propose new activities for implementation that reflected the new focus

Food security, based on local production, became the focus of the revised work plan. It is critical that food be available in rural areas and that disruptions in normal farming activities be minimized, permitting farmers to produce surplus food for the market so that prices do not soar, coping mechanisms are not overburdened, and tensions do not rise due to scarcity or famine. It is important to empower the smallholder marketing framework across the Equatoria states to implement productive activities that will also build social cohesion as part of the development process.

2.3. SECURITY

The Director of Global Security for Abt Associates visited South Sudan from May 16-29, 2014, to carry out a security assessment for the project. The purpose of the visit was to assess the security situation on the ground in South Sudan, particularly in the three Equatoria states, and to make recommendations based on this assessment about the redeployment of expatriate staff, office and residential security, general staff safety, and evacuation contingencies. The assessment recommended adding a full-time security specialist under subcontract to RSM. This recommendation was approved by the CO in September 2014.

Eastern, Central, and Western Equatoria States have been pockets of relative calm (with the notable exception of Juba itself) throughout even the most violent fighting last December. This can be attributed to many factors, including the more peaceful nature of the Equatorians themselves, greater levels of food security in this rich agricultural belt, the positive economic impact of Equatoria's proximity to the Ugandan border, and the increased security provided by the more visible presence of the Ugandan

military supporting Salva Kiir and the Sudan People's Liberation Movement. It is impossible, however, to ignore the overall instability and fragility that pervade South Sudan, which with little warning could return the entire country to violent conflict.

In considering future staffing, even though the threat level in South Sudan is significant, the project believes that under controlled conditions and with strict adherence to sound security guidelines, including the adoption of tailored evacuation plans for each location, current conditions do not absolutely preclude redeployment of personnel in Equatoria. Any redeployment will be regularly reviewed by field and headquarters management and subject to change or modification as necessary.



The FARM project office in Yei in Central Equatoria State

3. COMPONENT I: PRODUCTION AND PRODUCTIVITY

Agriculture is the economic cornerstone for rural households across the Greenbelt of South Sudan. It provides all-important food security and a sustainable source of nutrition within the region. It allows progressive farmers to produce beyond their subsistence needs and establish household incomes and create wealth. It creates demand for products and services leading to market development and jobs. It provides opportunities for youth and establishes platforms to empower women. It prompts opportunities for communities to unite and work together on common goals, and it facilitates interaction with outside groups in areas of mutual interest. It enhances the resiliency of households and communities through self-reliance, improved skills and know-how, strengthened local institutions, and an enhanced ability to work together. Agriculture also represents the primary source of economic development in the Greenbelt and throughout the country.



Photo: Michael Godfrey, Abt Associates

Jeris Meli, head of household and member of Mesikin FBO outside Morobo in Yei County in CES, shows off the first season Longe 5 maize harvest.

When the FARM project began, agricultural production in the Greenbelt was rudimentary, as farm plots were small and cultivated without machinery or advanced technology. Planting materials used to cultivate crops were weak and agronomic knowledge was largely lost. Populations were risk-adverse due to decades of war and typically worked as individual households rather than in a collective environment.

Agricultural production has been a core element of the project since its inception in 2010 and has established the groundwork for interventions to germinate, disperse, and grow. Through FY 2014, the project organized and provided direct agricultural production support to 574 community farmer-based organizations (FBOs) and over 13,000 farming households. It distributed almost one million kilos of improved seed for planting on over 19,000 hectares of land. It made 1,100 hectares of land available for cultivation, supported local communities through plowing and harrowing support, and demonstrated environmentally safe and sustainable methods of

reclaiming land for cultivation by helping 11 communities regain 462 hectares of previously productive fallow land. The project has widely enhanced the knowledge and skills base of the Greenbelt population by training over 11,000 farmers in good agronomic practices since project inception.

These interventions have made a considerable impact on agricultural production, helping to significantly improve crop yields and increase the area of land under cultivation. This has contributed to household

food security improvements in the Greenbelt. Surpluses are now being produced by local smallholder farmers, creating supply for markets to develop and for future demand to grow for value-added products and services. Local produce is now prevalently available in local markets and farmer groups are developing to aggregate and bulk sell surpluses to outside markets.

Continuing support to smallholder farms during the disruption was vital to maintaining the project's momentum in improving production and building markets. Much of this work was done during the evacuation period; the project's South Sudanese staff should be recognized for their hard work and dedication during uncertain and troublesome times.

3.1. COMMUNITY ORGANIZATIONS AND FBO FORMATION

Since its inception in 2010, the project has been working with local community-based FBOs to implement many of its production activities. The project has met aggressive goals each year to increase the number of these project-assisted organizations. The number of FBOs receiving assistance has grown from 185 in FY 2011 to 574 today. The table below breaks down these totals by county and state for FY 2014. A total of 75 new FBOs and 2,374 new farmer members were added to the beneficiary network during this fiscal year, with women playing an important role in project activities as evidenced in the itemized breakdown below.

Table 1: Old and New FBOs in the Three Equatoria States (Including Gender Breakdown), FY 2014

| Eastern Equatoria State | | | | | | | |
|-------------------------|----------------|---------------|------------|---------------|--------------|--------------|---------------|
| County | FBOs 2010–2013 | New FBOs 2014 | Total FBOs | Members | Men | Women | Percent Women |
| Magwi | 57 | 15 | 72 | 1,746 | 773 | 973 | 55.73 |
| Ikootos | 43 | 10 | 53 | 1,181 | 628 | 553 | 46.82 |
| Torit | 67 | 0 | 67 | 1,618 | 1,144 | 474 | 29.30 |
| Subtotal EES | 167 | 25 | 192 | 4,545 | 2,545 | 2,000 | 44.00 |
| Central Equatoria State | | | | | | | |
| County | FBOs 2010–2013 | New FBOs 2014 | Total FBOs | Members | Men | Women | Percent Women |
| Yei | 52 | 8 | 60 | 1,562 | 1,083 | 479 | 30.67 |
| Morobo | 47 | 8 | 55 | 1,746 | 1,132 | 614 | 35.17 |
| Kajokeji | 58 | 8 | 66 | 1,450 | 732 | 718 | 49.52 |
| Subtotal CES | 157 | 24 | 181 | 4,758 | 2,947 | 1,811 | 38.06 |
| Western Equatoria State | | | | | | | |
| County | FBOs 2010–2013 | New FBOs 2014 | Total FBOs | Members | Men | Women | Percent Women |
| Yambio | 63 | 7 | 70 | 1,531 | 1,007 | 524 | 34.23 |
| Maridi | 54 | 7 | 61 | 1,048 | 704 | 344 | 32.82 |
| Mundri West | 58 | 12 | 70 | 1,322 | 795 | 527 | 39.86 |
| Subtotal WES | 175 | 26 | 201 | 3,901 | 2,506 | 1,395 | 35.76 |
| Project Total | 499 | 75 | 574 | 13,204 | 7,998 | 5,206 | 39.43 |

3.2. YIELD ASSESSMENT RESULTS

The Greenbelt agro-ecological zone has a bimodal rainfall pattern, resulting in two harvests per year. The first yield assessment takes place after the first harvest, in August and September, and the second occurs after the second harvest in November and December. Therefore, the assessment work for the 2013 harvest season was completed during the first two quarters of FY 2014 and is reported accordingly below.

FARM's maize yield assessments across the three Equatoria states showed an average of 3,300 kg per hectare (ha) for the 2013 first season harvests and 3,866 kg/ha for the 2013 second season across the sampled households. The project's baseline yield for maize in 2010 was 800 kg/ha,¹ while the South Sudan Agricultural Sector Policy Framework 2012–2017 noted average yields of 640 kg/ha for 2009 and 750 kg/ha for 2010. Using an average of 3,583 kg/ha for the combined two 2013 seasons, the results preliminarily indicate a 59 percent increase in yields over FARM's 2012 assessments and a 347 percent increase over the 2010 baseline of 800 kg/hectare.

The project's tailored technical assistance package is driving improvements, although the full impact of the interventions needs to be more closely examined. The project's distribution of certified Longe 5 seed has certainly contributed to an expected one-time major increase in smallholder yields, as evidenced by the early gains achieved during the initial years of the project. The continual year-on-year rates of improvement in farmer yields is also due to farmers' increasingly full application of the good agronomic practices promoted by the project, which cover areas such as seed planting and spacing, weeding, and pest control. However, bountiful rainfall in the Equatorias during 2013 (and during the still ongoing 2014 season) should also be recognized as contributing factors to the apparent increase in yields.

Evidence from Uganda and Kenya indicates that the Longe 5 variety can achieve expected yields between 2,000 and 3,000 kg/ha under modern farm practices, although they are usually lower—in the 1,500–2,000 kg/ha range.² These modern practices include regular fertilizer application, which is not a widespread practice in South Sudan.

For all these reasons, and because much of the assessment work was done during the project's evacuation period when senior technical staff were not in country, the project is using the 2014 harvests and assessments currently underway to amplify its sampling to cover more participating farms and to include control (non-participating) farms. FARM will also isolate the potential rainfall effects of the two most recent harvest seasons. A definitive yield assessment report will be prepared as a distinct deliverable, in addition to the upcoming final project report by the second quarter of FY2015.

3.3. SEED SELECTION AND DISTRIBUTION

The project started distributing certified seed in FY 2011. The objective was to introduce higher-producing seed to smallholder farmers in the Greenbelt in order to increase productivity and overall

¹ Mainville, Denise. 2010. "Baseline Report." Prepared for the Food, Agribusiness and Rural Markets (FARM) project by Abt Associates Inc., Bethesda, MD, August 2010.

² J. Mugisha and G. Diirro, Makerere University. 2010. "Explaining the Adoption of Improved Maize Varieties and its Effects on Yields among Smallholder Maize Farmers in Eastern and Central Uganda." *The Quarterly Bulletin of Drought Tolerant Maize for Africa*, Vol 2 #3, September 2013. AGRA. "Africa Agriculture Status Report 2013." Country Data Tables (Yield/Maize).

production. FY 2014 is the fourth year the project has distributed seed to selected FBOs in its service area.

A total of 310 FBOs and 7,808 farmers received seed through the seed distribution program during FY 2014. Seventy-five of these 310 groups were new to the project. The remaining 235 beneficiaries were existing groups that had received seed in previous years but were given different types of crop seed in FY 2014. (For example, they may have received maize seed in a previous year but obtained beans in FY 2014). Table 2 shows the distribution of seed beneficiaries in FY 2014.

Table 2: Number of FBOs and their Members who Received Seeds in 2014

| State | County | No. of FBOs | No. of Members | No. of Men | No. of Women | Percent Women |
|---|----------|-------------|----------------|--------------|--------------|---------------|
| Eastern Equatoria State | Magwi | 31 | 840 | 382 | 458 | 54 |
| | Ikwo | 28 | 655 | 342 | 313 | 48 |
| | Torit | 48 | 1,176 | 807 | 369 | 31 |
| Eastern Equatoria State Subtotal | | 107 | 2,671 | 1,531 | 1,140 | 43 |
| Central Equatoria State | Yei | 56 | 1,421 | 987 | 434 | 30 |
| | Morobo | 55 | 1,746 | 1,132 | 614 | 35 |
| | Kajokeji | 66 | 1,450 | 732 | 718 | 50 |
| Central Equatoria State Subtotal | | 177 | 4,617 | 2,851 | 1,766 | 38 |
| Western Equatoria State | Yambio | 7 | 144 | 82 | 62 | 43 |
| | Mundri | 12 | 257 | 131 | 126 | 49 |
| | Maridi | 7 | 119 | 74 | 45 | 38 |
| Western Equatoria State Subtotal | | 26 | 520 | 287 | 233 | 45 |
| Project Total | | 310 | 7,808 | 4,669 | 3,139 | 40 |

The project distributed a total of 217,500 kg of improved seed in FY 2014. The first season distribution included maize (40,000 kg), groundnuts (122,500 kg), and beans (45,000 kg). All the seeds were competitively procured and imported from Uganda during April 2014.

Unlike other donor programs, the FARM project selects seed varieties largely based on farmer preferences, which are obtained through the field staff's information collection efforts. This practice garners significant support from the project's smallholder farmers. As in years past, Longe 5 was the maize variety purchased and distributed by FARM, due to its high productive and nutritional value. It was distributed to 178 FBOs for 3,716 farmers. Three groundnut varieties were distributed during FY 2014: Serenut 2, Red Beauty, and Egola. They were selected due to farmer preferences and because of vendor availability. Groundnut seeds were distributed to 159 FBOs benefiting 3,573



Photo: Amule Timothy, AAHI

Beneficiaries from Noki farmer based organization picking up their seeds from a distribution center in Bangasu Payam, Yambio County, Western Equatoria State, 2014

farmers. Bean seed (type K132) was procured by the project based on farmer preferences; it was distributed to 112 FBOs benefiting 2,282 farmers. These seeds were either planted during the first planting season, which takes place during March and April, or held by farmers for the second planting season that occurs during July and August.

The project procured a second tranche of seed, including upland rice, sesame, and millet, in August 2014 for distribution for the second planting season. This included Nerica 10 rice seed (5,000 kg) distributed to 18 FBOs for 345 farmers, Simsim II sesame seed (3,000 kg) distributed to 123 FBOs for 2,472 farmers, and Seram II millet seed (2,000 kg) distributed to 95 FBOs for 1,597 farmer-members.

FY 2014 marks the first year that the project did not procure and distribute cassava. During the FY 2013 distribution, approximately 90 percent of the cassava stems procured and distributed by the project were sourced through local farmers, mostly within the same county (except where shortfalls were experienced). The project believes that a sufficient supply of cassava now exists within the Greenbelt to sustain future production, so it decided not to distribute cassava stems in FY 2014, allowing a private sector market to develop for this input.

Table 3 below summarizes the number of FBOs and farmers who received seed during the FY 2014 distribution, along with area planted.

Table 3: Summary of FBOs and Seeds Received and Planted by Farmers during FY 2014

| Crop | FBOs | Men | Women | Total Farmers | Seeds (kg) | Area Planted (feddans) ^a | Area Planted (hectares) |
|--|------|-------|-------|---------------|----------------|-------------------------------------|-------------------------|
| First Planting Season Distribution | | | | | | | |
| Maize | 178 | 2,175 | 1,541 | 3,716 | 40,000 | 4,000 | 1,680 |
| Groundnuts | 159 | 2,095 | 1,478 | 3,573 | 122,500 | 2,688 | 1,129 |
| Beans | 112 | 1,344 | 938 | 2,282 | 45,000 | 1,125 | 473 |
| Second Planting Season Distribution | | | | | | | |
| Sesame | 123 | 1,443 | 1,029 | 2,472 | 3,000 | 1,500 | 630 |
| Millet | 95 | 832 | 765 | 1,597 | 2,000 | 1,000 | 420 |
| Rice | 18 | 214 | 131 | 345 | 5,000 | 167 | 70- |
| Totals | | | | | 217,500 | 10,480 | 4,402 |

^a Area planted is a projection based on the following planting assumptions—maize: 10 kg/feddan; shelled groundnuts: 40 kg per feddan; unshelled groundnuts: 52 kg/feddan; beans: 40 kg/feddan; millet and sesame: 2 kg/feddan; and rice: 30 kg/feddan.

3.4. PLOWING AND HARROWING

The project continued to provide plowing and harrowing services to selected farmers in its service area during the 2014 growing season. Limited land under cultivation is a significant agricultural production constraint in South Sudan. Reasons for the problem include limited labor and poor access to land-preparation technologies and service providers in rural areas. The goal of the project's plowing and harrowing program is to address this challenge by introducing and subsidizing land-preparation technologies for smallholder farmers to help them expand land used for agricultural production in an environmentally sustainable manner. The project provided three land-preparation technologies in FY 2014—four-wheel tractors, animal traction, and some continuation of the two-wheel tractors initiated

by FARM during FY 2012. The choice of technology depended on the availability of service providers and on common local practices.

A total of 97 FBOs were selected to receive plowing and harrowing support in 2014. These farming groups were identified and verified between December 2013 and February 2014 by South Sudanese project staff. Staff visited each FBO to ensure that the proposed land had been cleared, confirm the availability of a local service provider, and determine which farming groups were prepared to benefit from this program and willing to contribute to the cost of the plowing service. Cost-share requirements were 20 percent of the total plowing cost for a four-wheel tractor and 10 percent of the plowing cost for an ox-driven plow. The remainder of the cost was directly paid to the local service provider through the project's in-kind grants program.

Table 4 below summarizes the project's plowing and harrowing activities for the 2014 planting season. A total of 896 feddans (376 hectares) were plowed and harrowed, representing 108.6 percent of the project's target. The actual number of FBOs who received plowing and harrowing services was 89 since eight dropped out of the program because they could not meet their cost-share obligations or because local service providers were not able to prepare land before the planting season. Project support enabled 2,277 farmer beneficiaries to receive plowing services during FY 2014. Approximately 915 of these beneficiaries (40 percent) were women-led farming households. Noteworthy, The grant number captures the actual feddans plowed, conversely, the status table captures both grants and non assisted plowing as demonstrated in Table 4.

Table 4: Status of Plowing and Harrowing Support by County, FY 2014

| County | FBOs | | Feddans Plowed | |
|--------------------------------|-----------|-----------|----------------|------------|
| | Target | Achieved | Target | Achieved |
| Eastern Equatoria State | | | | |
| Magwi | 19 | 19 | 116 | 217 |
| Ilkwotos | 10 | 10 | 65 | 106 |
| Torit | 86 | 7 | 45 | 56 |
| Total EES | 37 | 36 | 226 | 379 |
| Central Equatoria State | | | | |
| Yei | 13 | 10 | 125 | 100 |
| Morobo | 8 | 8 | 90 | 90 |
| Kajokeji | 13 | 13 | 110 | 110 |
| Total CES | 34 | 31 | 325 | 300 |
| Western Equatoria State | | | | |
| Maridi | 11 | 8 | 136 | 89 |
| Mundri W. | 7 | 6 | 80 | 70 |
| Yambio | 8 | 8 | 58 | 58 |
| Total WES | 26 | 22 | 274 | 217 |
| Total FARM | 97 | 89 | 825 | 896 |

Since project inception, local access to service providers has consistently been a significant constraint to the plowing and harrowing program. When local four-wheel tractor services were able to be found, they frequently broke down and were incapable of finishing their orders. Two-wheel tractors had previously been introduced by the project in areas where four-wheel tractors were not available. Refresher two-wheel tractor training was provided to 66 participants in each of the three Equatoria states during FY 2014. Due to maintenance and capacity restrictions, however, two-wheel tractors have limited impact on the plowing needs of the region.

Table 5 below shows the steady increase in feddans plowed throughout the project's life. Much of this increase can be attributed to the use of animal traction, which was primarily introduced during the 2013 planting season. Approximately 18 percent of the land plowed with support from the project during FY 2013 was through animal traction (ox-plow) technology. This increased to 37 percent during FY 2014. Ox-plow use has been particularly prevalent in EES, where 55 percent of the land was prepared by this technology, compared to 25 percent in CES and 20 percent in WES during FY 2014. Ox-plow technology is a credible alternative to the four-wheel tractor, particularly in EES and parts of CES. The project will consider further ox-plow demonstrations and training going forward for FY 2015.

Table 5: Feddans Plowed with FARM Project Support, FY 2011–FY 2014

| Year | Feddans Plowed During Year | Increase Over Previous Year | Cumulative Total Feddans Plowed |
|---------|----------------------------|-----------------------------|---------------------------------|
| FY 2011 | 377 | N/A | 377 |
| FY 2012 | 529 | 152 | 906 |
| FY 2013 | 739 | 210 | 1,645 |
| FY 2014 | 896 | 157 | 2,541 |

3.5. BLOCK FARMING

The project began to implement a land reclamation program in 2012. The program was created to demonstrate how previously cultivated land that is currently in fallow could be responsibly and sustainably used again for agricultural production with minimal environmental impact. Working with South Sudan's MAFTARFCRD, the project developed a block farm concept, which was piloted during FY 2012. Each block farm is to include a contiguous 100-feddan (42 hectare) plot, demarcated into subplots of two feddans each. Fifty farmers were organized for each block farm site, with each farmer cultivating a two-feddan subplot. FARM developed best-practice guidelines regarding the selection, development, and reclamation of the land, placing an emphasis on safe and sustainable use.

FARM initially worked with two local communities (Obbo in EES and Kudaji in CES) to pilot the block farm concept during FY 2012. EES was highly supportive of the program. Block farming became the thrust of its agricultural development plan for EES under the Republic of South Sudan's (RSS's) NEAT initiative, which came out during FY 2013. In response to NEAT, the project developed five additional block farms in EES during FY 2013 (Palwa, Lerwa, Pajok, Kerepi, and Agoro-Maji). In total, FARM has worked with 11 block farms to reclaim 1,100 feddans (462 hectares) of fallow land for cultivation for up to 550 farmers through FY 2014. A considerable amount of preparation work is required to establish each block farm. The project's support for each block farm includes the following activities:

- Feasibility study
- Assignment of formal names to each block farm
- Mobilization meetings of target groups and formation of membership structures
- Discussions on whether the groups are ready and whether they willingly agree to the idea of having the block farm in the community
- Verification that the groups already exist and are in process of electing executive committee members and starting the registration process, or that they are already registered
- Confirmation that membership registration includes 50 farmers, with each farmer owning a maximum of two feddans to manage
- Proposals on the roles of the project, the executive committees, and the farmer-members
- Verification of the land through field visits

- Observations for suitability and legal ownership
- Recording of common tree species and beneficial trees and bushes
- Mapping of 100 feddans of land for each block farm
- Recording of global positioning system (GPS) coordinates for mapping the locations

Once these steps are completed, the project awards in-kind grants for the actual reclamation of the fallow land through local vendors. This is later followed with grants for plowing and harrowing services to prepare the land for cultivation. The typical cost to reclaim, plow, and harrow each block farm is approximately \$30,000 to \$45,000. Seed grants are awarded for planting, in amounts up to several thousand dollars. For FY 2014, 500 farmers in the block farm program received seed during this reporting period through eight in-kind seed grant awards to local community farming organizations. Project staff also provide GAP training and technical assistance to the block farm members.

For FY 2014, the project identified five new locations. Three of these areas are in Magwi County in EES (Lobone, Pageri Moli, and Abara), and a fourth is in Kajokeji County in CES (Morsak). A fifth block farm (Karika) was to be developed in Mundri County in WES, but it was later canceled due to the condition of the land that had been selected by the community group. During the reporting period, 400 feddans (168 hectares) of land were reclaimed, plowed, and harrowed for 200 farmer beneficiaries.

As significant resources are invested into the development of each block farm, a goal is for each block farm to become a viable business entity and achieve sustainability. Therefore, the project also provides business planning and marketing training, along with other technical assistance, to the block farms. Some block farms have already achieved success—one sold \$62,562 from its 2013 harvest, out of an initial FARM investment of \$39,968. Other block farms have not been as successful. FARM hopes that a number of the block farm organizations will evolve into cooperative societies and participate in the cooperative movement created by the project. Land tenure remains an issue for these block farms and compromises their long-term sustainability. Because block farm development is a very resource-intensive intervention with a very high cost per beneficiary, the project must determine a method to scale up block farming in a cost-effective manner or alter its block farming program going forward. The project developed a technical document on land reclamation during the reporting period, which will soon be ready for dissemination.³



Photo: FARM project staff

A block farm's bean field in Eastern Equatoria State

³ Food, Agribusiness and Rural Markets Project. "Reclaiming Land for Agriculture in South Sudan." Prepared by Abt Associates Inc., Bethesda, MD, September 2014.

3.6. SEED MULTIPLICATION

Lack of seed multiplication capacity in South Sudan is a significant constraint to agricultural production in the country. Most farmers have been planting farm-saved seeds kept from previous seasons or seeds given by development organization through grants. Sometimes they buy seed from other farmers or open markets. The stored grains are more accurately designated “grain meant for consumption,” with no guarantee of quality in regards to germination or productivity. Most of the higher-producing certified seeds distributed by the project have been procured from Uganda since 2011.

Farmers who have received the project’s GAP training have been instructed on how to save some portion of their harvest as seed for the following planting year. Using this method, however, the quality of the seed diminishes over time, significantly impacting farmer productivity. For example, the recommended cycle is three years when using this method for the Longe 5 maize seed distributed by the project.

Initial USAID-funded work in this area was done through the Alliance for a Green Revolution in Africa (AGRA) Seeds for Development program in South Sudan. The FARM project began to collaborate with this program during FY 2013 through one of AGRA’s selected local seed producers, Century Seeds, a South Sudanese company, and MAFTARFCRD. In this effort, Century Seeds provided basic foundation seeds and other inputs and made contractual arrangements with farmers to purchase their seed crops for further processing so that they could be channeled through a distribution network of certified agro-dealers. The FARM project supported the contracted farmers with plowing, training, technical assistance, and coordination with field supervision. The project purchased some seed from Century Seeds for its FY 2013 distribution to support the Seeds for Development program. Overall, this effort experienced challenges during 2013, before it was disrupted by the conflict in South Sudan. Due to the conflict and resulting difficulties, the project purchased seed for the FY 2014 seed distribution program from Ugandan vendors, in order to ensure reliability of supply and delivery.



Photo: Rebecca Ricitello, Abt Associates

Longe 5 maize seed

AGRA’s Seeds for Development program closed in 2014. The FARM project intends to re-assess opportunities to improve seed multiplication programs during FY 2015, in cooperation with AGRA, which continues to have a presence in South Sudan.

3.7. COUNTY AND PAYAM DEMONSTRATIONS

In collaboration with County Commissioners of Agriculture, the project continued during this fiscal year to support demonstration plots to showcase improved technologies for seeds and improved practices. These plots are intended to serve as learning centers for farmers, displaying production of the crop varieties promoted by the project, including maize (Longe 1, Longe 4, and Longe 5), groundnuts (Serenut 2 and Red Beauty), and beans (KI 32). The plots are approximately two feddans in size, small compared to those of previous years, to promote greater rigor in training on technologies and practices at demonstration events.

In addition to GAP training (discussed in Section 0 of this report), a total of 3,735 farmers received training in FY 2014 during farmer field days. These days were held at on-farm demonstration sites and covered the phases of land preparation and planting; first, second, and third weeding; urea fertilizer application; and harvesting. Each state is supposed to implement one demonstration plot in each county. The result would be three demonstration plots per state. CES decided to implement three demonstration plots in each county—one in each payam. CES called these payam-level plots Farmer Participatory Learning Centers. This was the first time farmer field days were held at the payam level. The change was an attempt to get closer to the farmers' locations and improve their access to agronomic information and training. The payam field days were quite successful. A total of 3,553 farmers participated in the nine field days conducted in CES, while 182 farmers participated in farming demonstrations at the county level in all three states.

3.8. POST-HARVEST STORAGE

The project conducted a study during FY 2014 to compare the effectiveness of hermetic grain storage bags, traditional local storage cribs, and the improved storage cribs designed by the project during FY 2012. FARM procured 150 hermetic grain storage bags (each holding 100 kg) and distributed four bags to each of the 37 farmers participating in the post-harvest storage study. The farmers filled each of the four hermetically sealed storage bags with 100 kg of grain for storage at their farms. The farmers were also requested to place maize grain in their local traditional storage cribs and in the improved cribs. The stores contained in the two demonstration cribs were to have a minimum of 50 kg of grain that could be sampled on a monthly basis.



Photo: Michael Godfrey, Abt Associates

The type of locally improved drying/storage crib promoted by the FARM project

From February to June 2014, the project monitored how effective the different storage methods were in controlling mold, dust, moisture, and—most importantly—weevils. While the quantitative results of the trial will be reported during the first half of FY 2015, most farmers were satisfied with the trial and indicated that the hermetic bags did the best job of controlling weevils. In fact, many of the farmers requested more bags. To respond to these requests, the project procured 6,000 hermetic storage bags (each holding 50 kg) by the end of FY 2014 to give to project-supported cooperative

unions for onward sale or distribution to farmers. The anticipated result of this activity is increased net production due to reduced spoilage, as well as improved quality to meet the requirements of institutional and larger-scale buyers.

4. COMPONENT 2: TRADE AND MARKETING

The FARM project's work in agricultural production during its initial years was successful numerous farmers having produce to market and sell, it is critical to focus on developing input and output markets. The current emphasis of the project's market development program is on developing local capacity to aggregate and bulk smallholder produce and to add value to the produce to meet buyers' needs. The conflict in South Sudan has not stalled the need to develop this part of the agricultural sector—it has instead emphasized the importance of agricultural markets in helping individuals and communities work together to address important social issues and create positive economic opportunities.



Photo: Michael Godfrey, Abt Associates

Typical rural payam market in Morobo County in Central Equatoria State

As access to feeder roads and markets is vital for agricultural development in South Sudan, the project has focused most of its work in areas where transportation is available. Following previous guidance from the FARM project, several donors have made some improvements in infrastructure and roads in recent years. In CES, the Yei–Kegulu–Ombaci–Morobo feeder road is currently in rather good condition. While the road linking Morobo to Kajokeji is also in good condition, it is not currently being used due to a broken bridge. The development of the Juba–Nimule road has opened up access to Magwi

County in EES. The Magwi–Obbo–Pajok road in this same state is rated good, although construction is still ongoing to Lobone. In WES, road work is still in process linking the town of Mundri to Medewu. FARM recommends that consideration be given to further payam or county expansion for FY 2015 into locations that have recently gained good market access within the project’s current areas of operations.

As stated in Chapter 3, the project has now worked with 574 community-level farming groups that represent over 13,000 smallholder farmers in the Greenbelt, helping many with marketing and business planning. It has assisted a number of these groups to organize into cooperative societies. The project has also facilitated the start-up of seven cooperative unions in six of its nine target counties. Yambio County in WES has a farmer association (Yambio Farmers’ Association) that may join the FARM-supported cooperative movement. Two counties in EES are currently more interested in the block farm approach than in cooperative union development.

The cooperative unions have received training, technical assistance, and light processing machinery. Other trade and market development activities include 1) developing market information systems that will use cell phone technology to collect and share data on supply, demand, and pricing; and 2) supporting trade fairs and forums to create new market linkages between buyers and sellers. The project is developing input supply opportunities in areas such as land preparation, seed multiplication, transportation, and post-harvest storage. There is now evidence that the 2013 surplus production is entering local markets and that some produce is being bulked and sold to buyers such as the WFP. These factors, coupled with a 2014 harvest that is expected to be even larger, lead the project to anticipate that its market development activities will lead to more significant gains during FY 2015.

4.1. COOPERATIVE DEVELOPMENT

As the project began operations in South Sudan in 2010, many smallholder farmers in the Greenbelt were operating at pre-subsistence levels and struggling to get by. Many producers lacked the knowledge and skills to identify, access, evaluate, and plan for market opportunities. Farmers’ reluctance to look for markets, lack of knowledge of existing markets, inexperience in working with other farming groups, and difficulties in identifying and addressing market opportunities and constraints all combined to create a need to build the marketing capacity of farmer groups.

In FY 2012, the project began to place more emphasis on providing “farming as a business” training. Despite project training, the majority of project-assisted farmers were not able to produce enough surpluses to access markets outside their local areas. As shown by the project’s market assessments, these local markets had excess supply, reducing the selling power of individual farmers and local FBOs and leading to low profitability or even losses.

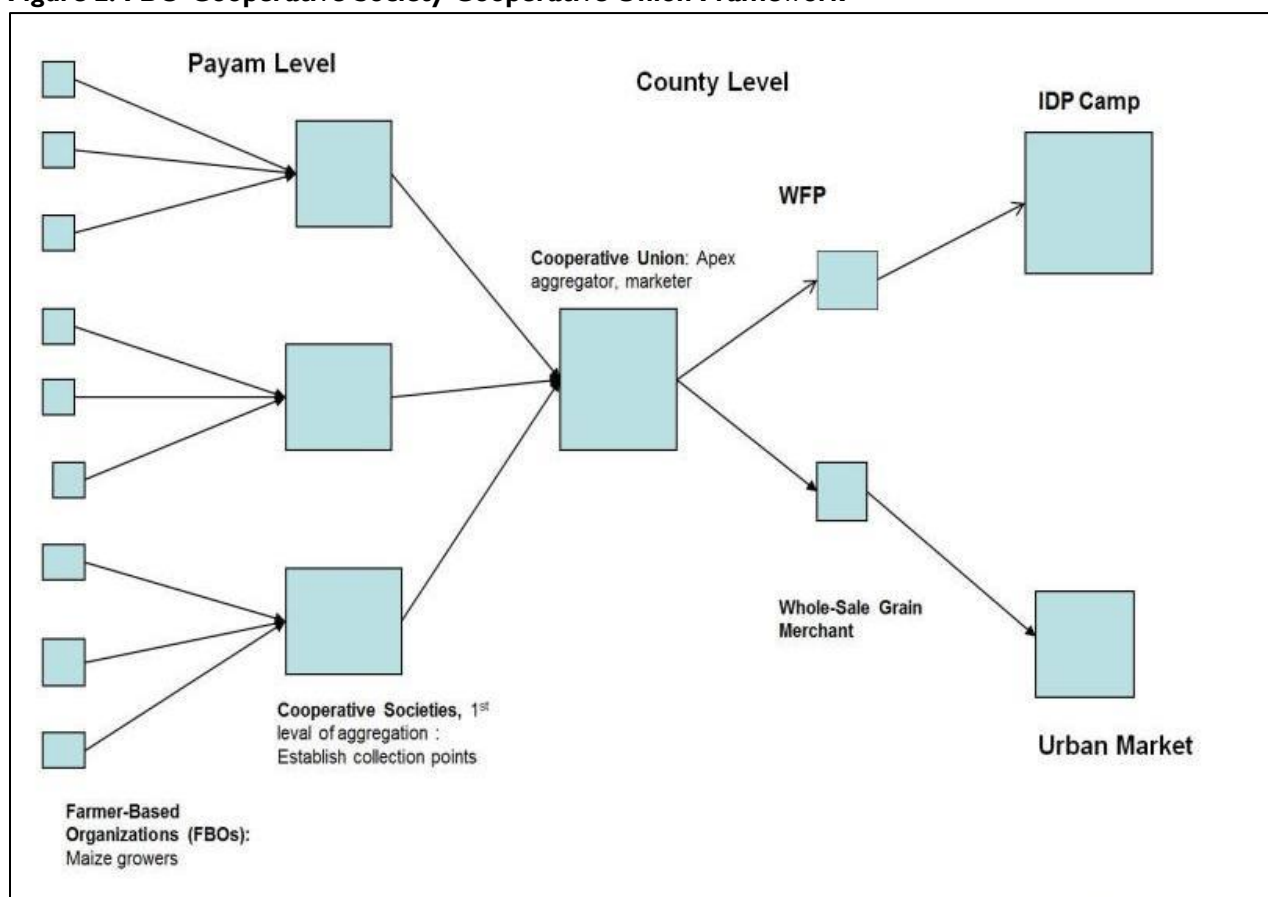


Phot: Michael Godfrey, Abt Associates

Demonstration plot of millet at Rainbow Cooperative Society in Morobo County in Central Equatoria State

During FY 2013, FARM began to emphasize the formation of aggregated farming groups that extended beyond the FBO level. The project began to work with cooperative societies, which in South Sudan are legally registered entities with memberships composed of FBOs located in the same vicinity. However, these groups were not large enough or sufficiently organized enough to aggregate the amounts of produce needed to access larger markets outside the groups' immediate areas. The project allocated much of its market development resources during FY 2014 to helping strengthen cooperative unions, primarily at the county level. These unions are legally registered entities currently comprised of 5 to 16 cooperative societies. The project believes that if sufficient surplus can be aggregated and bulked by cooperative unions, they will be able to access large markets (including institutional buyers such as the WFP, NGOs, schools, and private processors) and supply urban markets outside the Greenbelt region through large-scale traders and merchants. Figure 2 shows how the FBO-cooperative society-cooperative union framework is structured.

Figure 2: FBO-Cooperative Society-Cooperative Union Framework



4.1.1. Cooperative Union Formation

The primary reason for forming cooperative unions is to give cooperative societies better access to markets. The unions have the following three objectives:

- Aggregate, transport, store, and sell cooperative society members' harvest at profitable prices
- Acquire production inputs for sale or rent to members at reasonable prices
- Facilitate members' access to marketing and production services at affordable prices

During FY 2014, the project worked with seven nascent cooperative unions in six of its nine target counties, as shown in Table 6 on the following page.

Table 6: Cooperative Unions Supported by FARM, FY 2014

| | Name | County | State |
|----|---------------------------------|---------------|-------------------------|
| 1. | Mundri West Cooperative Union | Mundri West | Western Equatoria State |
| 2. | Maridi County Cooperative Union | Maridi | Western Equatoria State |
| 3. | Kajokeji Cooperative Union | Kajokeji | Central Equatoria State |
| 4. | Morobo Cooperative Union | Morobo | Central Equatoria State |
| 5. | Yei Cooperative Union | Yei | Central Equatoria State |
| 6. | Magwi County Cooperative Union | Magwi | Eastern Equatoria State |
| 7. | Balu Cooperative Union | Magwi | Eastern Equatoria State |

The project also conducted assessments of Yambio Farmer's Association (YAFA) in Yambio County and Nzara Agricultural Farmers' Association (NAFA) in Nzara County. These two farming associations had already been established prior to receiving project support.

4.1.2. Cooperative Training

The cooperative unions supported by the project are relatively new organizations that need significant levels of project support. Apart from YAFA and NAFA, the unions' members do not have experience working as a group or functioning as business entities. Nor do they have experience with the various operational aspects of running a successful cooperative service, such as selling or renting out agricultural inputs; organizing and transacting with farmer groups; providing transport; bulking, grading, and storing produce; marketing and selling; managing finances; and governing their organization. These organizations will likely need several seasons of training and business planning support to build their capacity to be sustainable and successful.

The project provided customized training on cooperative union formation to YAFA and NAFA in WES and to cooperative societies in the Madi Administrative Area in EES. The purpose of this training was to prepare these groups for entrance into the cooperative movement. YAFA and NAFA expressed their intent to become cooperative unions through this support. The Madi Administrative Area cooperative societies have now formed the Balu Cooperative Union. A total of 1,078 participants received cooperative development training by FARM during FY 2014 in cooperative union formation (40), cooperative business development/management (194), county-level basic cooperative management and operations (64), and payam-level basic cooperative management and operations (780).

4.2. AGRICULTURAL TRADE FAIRS

The project supported state agricultural trade fairs in WES and EES in October 2013. These state trade fairs arose out of an earlier project initiative that provided significant assistance to MAFTARFCRD with its first two national agricultural trade fairs, which were held in Juba in 2011 and 2012. The primary purpose of these trade fairs was to enable South Sudanese and international participants to engage with each other for business opportunities and to learn more about investing and conducting commercial business in the sector. Due to the dissolution of the previous government and the restructuring of the ministry in 2013, RSS decided not to have a national agricultural trade fair in 2013. The current conflict prevented a national trade fair in 2014.

In 2012, at the request of MAFTARFCRD, the project began supporting the development of state agriculture fairs. FARM provided two-day trainings on how to set up committees and organize and implement state agricultural trade fairs. EES and WES held their first state trade fairs in October and

November 2012, while CES opted not to have a trade fair. Surveys showed that the two state agricultural trade fairs were a positive experience. Farmers sold produce, purchased farm inputs, and were exposed to different examples of modern technology.

The state agricultural trade fairs were repeated in WES and EES during October 2013. The project supported the organization and implementation of these events and helped develop communications products such as banners, fliers, posters, and brochures promoting the fairs. A total of 29 individuals were trained in state fair planning and organization. FARM sponsored 25 farmers in EES to travel to Torit and 20 farmers from WES to travel to Yambio to participate in the events. Prizes were given to the counties that had the best promotional stalls in each fair. As in the previous year, the 2013 surveys showed that the state agricultural trade events provided a valuable forum for farmers and farming groups to access markets to sell their production, purchase necessary inputs, and develop the linkages needed for future market development.

4.3. MARKET INFORMATION SYSTEMS

During this reporting period, the project continued efforts to improve its capacity to acquire and analyze available agricultural market information for smallholder farmers and farmer groups in the Greenbelt. The lack of easily accessible, timely, and accurate market information is a significant constraint to developing agricultural markets in South Sudan. Without this information, buyers have limited knowledge of available supply and suppliers have no knowledge of potential demand for their harvest outside their own communities.

Since 2012, the project has been exploring ways that mobile phone technology could help address this shortcoming. FARM brought in an ICT specialist to determine the feasibility of developing a market information dissemination system for South Sudanese farmers and traders using current cell phone technologies. The study concluded that the project areas had sufficient coverage to implement a cell phone-based program and that the major constraint would be human use. In 2013, the project designed and implemented a three-month pilot to demonstrate that using mobile phones to collect data could streamline internal reporting on market and monitoring and evaluation (M&E) data from project extension staff in CES counties. The extension workers used this technology to collect data on crops planted, harvested, and sold by project-supported FBOs in the pilot area.

The project arranged for a second ICT specialist to come to South Sudan to train extension workers and support staff in operating the pilot system. During FY 2014, the expanded pilot platform was rolled out to all 27 payams in the FARM service area. Overall, the use of mobile phones has led to improvements in the quality of market data collected in many project areas. The project's M&E team in Juba collects and summarizes the market price data from each payam every two weeks, and then disseminates the information back to the 27 payams for wider distribution.

The new State Coordinator for CES, who was posted in August 2014, was selected for her expertise in ICT systems and mobile technology to further forge ahead with this program. The project's senior management, M&E, information technology, and extension teams continue to improve and scale up the internal mobile platform and to optimize its different components (price and volume data, geographic market information, etc.) and its project-specific M&E functions. Recent technical assistance assignments have been approved that will allow the project to scale up and push out the new technology. A new SMS text message service will improve the dissemination of this data to cooperative unions, which in turn can distribute the information to their members. This system is designed to strengthen the linkages between cooperatives and farmers. The project intends a full functional and open platform that will share agricultural market information among farmers, cooperatives, traders, businesses, and government.

4.4. FARMER/TRADER FORUMS

A market assessment conducted by FARM in 2012 found that there was an inadequate supply of Greenbelt-produced crops in urban markets within the Equatoria states. In rural markets, however, locally produced supply was high relative to demand. The assessment noted that distribution of commodities from surplus areas to deficit areas was hindered not only by poor road infrastructure, but also by traders' lack of awareness of the existence of surplus crops from local farmers.

The project created farmer/trader forums in FY 2012 to address this market impediment, bringing producers and buyers together to promote relationships and encourage transactions. During FY 2012 and FY 2013, the project supported a total of 13 farmer/trader forums in all three Equatoria states. The forums typically occurred after the second harvest, when smallholder produce became available for sale. Due to the conflict that broke out at the end of the second harvest season in December 2013, the farmer/trader forums for FY 2014 were not implemented as planned.



Photo: Michael Godfrey, Abt Associates

Pisak-Ngakoyi FBO cassava grater and grinding mill (see section 4.5)

The project sponsored one successful farmer/trader forum in Yambio in May 2014. Meeting participants comprised four farming association groups or cooperative unions in WES; two commercial banks; retail traders from Maridi, Mundri, and Nzara; a transportation company; the Food and Agriculture Organization (FAO); and the state Ministry of Agriculture. The agenda for the forum included presentations by each of the major stakeholder groups. A role-play exercise followed, helping the participants to recognize the various value chain actors required to create a successful value chain system and to better understand the role of

each actor. Later, a costing exercise was conducted with farmers and traders to help them grasp the price compromises needed for the value chain system to function well.

It is very clear that the lack of credit for traders and cooperatives is a major constraint in the development of functional commercial value chains in the Greenbelt. Equity Bank and Kenya Commercial Bank were invited to participate in the Yambio farmer/trader forum to introduce their services and discuss their requirements for making farm loans. These requirements include legal registration, relationship development with the bank through deposit accounts, good recordkeeping, a feasible business plan, and proper collateral such as land with legal title. Both banks expressed interest in making farm loans, although their farm lending plans are currently on hold due to the security situation in South Sudan.

The event in Yambio was deemed a success, as were the earlier events held in 2012 and 2013. Farmer/trader forums appear to be a good strategy for connecting farmers to prospective buyers and service providers. The project plans to organize more forums in the three Equatoria states after the 2014 harvest season.

4.5. GRAIN PROCESSING AND VALUE ADDITION

As productivity and production gains are being realized in the Greenbelt region, it is clear that there is a significant need to help farmers and farmer groups process their grains more efficiently. To date, much

of the processing has been done by hand, using rudimentary practices. This limits the marketability of the produce and leads to less market access, a lack of competitiveness with superior imported grains from Uganda, and lower prices for the farmers' produce.

The project established a pilot program (starting in FY 2013 and continuing in FY 2014) to reduce processing labor and improve processing efficiency and scalability for maize, cassava, groundnuts, and sorghum. FARM purchased 55 pieces of light mechanized and manual processing equipment (maize and groundnut shellers, sorghum threshers, and cassava graters and chippers) and distributed them to cooperative unions. The objective of the program was to add value to locally produced crops, enabling them to compete favorably with imported food commodities. In addition, by providing these processing inputs to farmers, cooperative unions are able to establish a platform for future service relationships with their members.

The project sponsored practical trainings in five different locations to teach each cooperative union to operate and maintain the processing equipment. The trainings, conducted by the Uganda-based equipment supplier, were accompanied by demonstrations on use of the equipment. The unions provided the necessary produce needed for the demonstrations. Table 7 shows the number of cooperative members trained in each county.

Table 7: Number of Cooperative Union Members Trained to Operate and Maintain Processing Equipment

| Cooperative Union | No. of Men | No. of Women | Total |
|-------------------|------------|--------------|-----------|
| Yei | 11 | 2 | 13 |
| Morobo | 8 | 1 | 9 |
| Kajokeji | 14 | 3 | 17 |
| Mundri | 10 | 4 | 14 |
| Maridi | 13 | 1 | 14 |
| Yambio | 2 | 0 | 2 |
| Total | 58 | 11 | 69 |

Following the provision of the equipment and initial trainings, FARM undertook monitoring visits during August 2014 to the various cooperative unions to evaluate the use and performance of the various types of processing equipment. The project found that motorized maize and groundnuts shellers and cassava graters and chippers are performing well and are in high demand. The manual machinery is not as popular among the farming groups. The cooperative unions reported that it is expensive to transport the equipment from site to site and that it is difficult to replace spare parts. Based on this input, the project anticipates significant potential to expand this program moving forward.

4.6. MARKET OPPORTUNITY DEVELOPMENT AND FACILITATION

The current conflict in South Sudan has changed the dynamics of agricultural markets in South Sudan. Other states have slight to modest food production deficits and face a higher level of chronic food insecurity in the projected year ahead. The Equatoria region has had a second year of favorable harvests but sees a degree of market disruption, or at least a failure of continued market growth and development.

In this environment, the project has reached out to partner organizations to determine how it can best respond to the current dynamics in South Sudan. FARM has concluded that the WFP's P4P program provides the most impactful opportunities. Under P4P, the WFP purchases surpluses from local smallholders if they can meet its price, quantity, and quality standards. P4P represents a substantial market for project-supported cooperative unions for the 2014 harvest. To help the unions realize this potential, the FARM project has been collaborating with the WFP during FY 2014. Project-supported cooperative unions face major challenges in seeking to sell produce to this large institutional buyer, however. They must aggregate sufficient quantities of farmer surplus to justify having the WFP send 20-ton trucks to pick up the harvest. Quality, particularly moisture control, is critically important.

During FY 2014, the FARM project facilitated sales from cooperative unions to the WFP. Table 8 shows the quantity and value of produce that farmer groups sold to the WFP from their 2013 harvest. YAFA and NAFA exhibited entrepreneurialism by aggregating produce from smallholders in their counties (many of whom were supported by FARM) and selling it at a profit to the WFP. The project also facilitated the sale of surplus by numerous cooperative societies in Kajokeji County in CES to the WFP. The project believes that this activity has the potential to significantly increase after the 2014 harvest, due to anticipated production gains in the Greenbelt, more evolved cooperative unions, and direct trade facilitation from FARM.

Table 8: Sales of Maize Grain from Cooperative Societies and Associations to the World Food Programme from 2013 Harvest

| Name of Cooperative/Association/ Cooperative Society | County | Quantity Sold (kg) | Price per kg (SSP) | Value (SSP) | Value (\$) |
|---|----------|--------------------------|--------------------------|----------------|------------------|
| Western Equatoria State | | | | | |
| Yambio Farmers Association (YAFA) | Yambio | 144,500 | 1.6 | 231,200 | \$66,057 |
| Nzara Farmers Association (NAFA) | Nzara | 46,000 | 1.6 | 73,600 | 21,029 |
| Maridi Farmers' Cooperative Societies | Maridi | 5,500 | 1.8 | 9,900 | 2,829 |
| State Total | | 196,000 | | 314,700 | \$89,914 |
| Central Equatoria State | | | | | |
| Jalimo Grower's Cooperative Society | Kajokeji | 3,000 | 1.6 | 4,800 | \$1,371 |
| Mijokita Farmers' Cooperative Society | Kajokeji | 7,500 | 1.6 | 12,000 | 3,429 |
| Kuruk Konyen Farmers' Cooperative Society | Kajokeji | 5,100 | 1.6 | 8,160 | 2,331 |
| Kinyiba Farmers' Cooperative Society | Kajokeji | 2,100 | 1.6 | 3,360 | 960 |
| Bata Kindi Mugum Farmer's Cooperative Society | Kajokeji | 7,500 | 1.6 | 12,000 | 3,429 |
| Bamurye Women Field Crops Producer's Cooperative Society | Kajokeji | 3,100 | 1.6 | 4,960 | 1,417 |
| Totonapai Farmer's Cooperative Society | Kajokeji | 2,800 | 1.6 | 4,480 | 1,280 |
| Ngarakita Farmer's Cooperative Society | Kajokeji | 11,500 | 1.6 | 18,400 | 5,257 |
| Lomeri Tidara Kita Farmers' Cooperative Society | Kajokeji | 1,000 | 1.6 | 1,600 | 457 |
| State Total | | 43,600 | | 69,760 | \$19,931 |
| Greenbelt Total | | 239,600 | | 384,460 | \$109,846 |

With guidance from South Sudan's National Bureau of Standards (SSNBS), the project collected 5–10 kg maize grain samples from Morobo, Yei, Kajokeji, Mundri, Maridi, Magwi, Yambio, and Nzara. These samples were tested by SSNBS's testing lab in Juba to determine whether their aflatoxin levels met the WFP's requirements (no more than 20 parts per billion). One-half of the samples met the WFP's aflatoxin requirement while the other half did not. It is important to note, however, that the testing was done in June 2014, well over six months past the 2013 harvest season. During FY 2015, following the FY 2014 harvest, the project will assist all its supported cooperative unions with post-harvest handling, grading, and storage, to help improve the quality of the aggregated crop to better meet the requirements of this very important market.

4.7. FINANCING AND CAPITAL DILEMMA

Lack of access to capital for equipment purchases and a shortage of working capital pose significant constraints to the development of cooperative unions in South Sudan. These shortcomings also hinder the unions' ability to purchase, aggregate, and bulk sell smallholders' surplus production. In an encouraging development, members of the cooperative unions trained by FARM took the initiative and used their own money—raised through membership fees and shares—to conduct marketing activities for the 2013 harvest. They could have achieved much more, however, if some external funding had been available. The current climate of political and security uncertainty in South Sudan, coupled with the nascent nature of the cooperative unions themselves, means that these organizations will again have limited access to credit and capital to invest for the 2014 harvest.

5. COMPONENT 3: CAPACITY BUILDING

Training and capacity building activities are fundamental to the project's overall objectives. These activities form an essential part of all Component 1 and Component 2 interventions and are integrated with all technical activities undertaken by FARM. The underlying aim of the capacity building component is to enhance learning among key stakeholders. The project works to improve the knowledge, output, management, and skills of all beneficiaries, including farmers, farming groups, extension staff, input providers, buyers and traders, and government counterparts.

During FY 2014, the project carried out an active training agenda, including during the period when expatriate staff were evacuated from the country. Table 9 below provides a summary of the trainings that were conducted during FY 2014. Many of the training activities have been discussed in other parts of this report. Those trainings that have not been substantially addressed in other sections of the report are briefly described in this chapter.

Table 9: Project Training Statistics, FY 2014

| Training Description | Total Trained | | | | Total by Gender | |
|---|---------------|-------|-----|-------|-----------------|--------|
| | EES | CES | WES | Total | Male | Female |
| Agricultural Production | | | | | | |
| GAP payam | 466 | 2,067 | 754 | 3,287 | 2,056 | 1,231 |
| Farmer demonstrations (county level) | 69 | 9 | 104 | 182 | 151 | 31 |
| Farmer demonstrations (payam level) | 0 | 3,553 | 0 | 3,553 | 2,173 | 1,380 |
| Two-wheel tractor refresher | 24 | 8 | 34 | 66 | 65 | 1 |
| Sustainable land reclamation (block farms) | 376 | 100 | 0 | 476 | 189 | 287 |
| Post-harvest processing equipment | 0 | 39 | 30 | 69 | 58 | 11 |
| Post-harvest handling | 43 | 1,521 | 0 | 1,564 | 985 | 579 |
| Market Development | | | | | | |
| Cooperative union formation | 10 | 9 | 21 | 40 | 32 | 8 |
| Cooperative business development/management | 12 | 68 | 114 | 194 | 144 | 50 |
| Cooperatives (cooperatives, county level) | 0 | | 64 | 64 | 47 | 17 |
| Cooperatives (cooperatives, payam level) | 33 | 705 | 42 | 780 | 461 | 319 |
| Processing equipment (cassava) | 0 | 50 | 0 | 50 | 38 | 12 |
| Agricultural trade fairs | 9 | 0 | 20 | 29 | 27 | 2 |
| Other Training | | | | | | |
| Tours (farmer-to-farmer, within state) | 33 | 245 | 78 | 356 | 322 | 34 |
| Gender training | 20 | 22 | 22 | 64 | 45 | 19 |

5.1. GOOD AGRICULTURAL PRACTICES AND SEED DISTRIBUTION TRAINING

Since the project's initial seed distribution in FY 2011, GAP training has proven to have a great impact on increasing smallholder productivity and production. This training is a significant behavior change activity, which guides farmers to adopt new agricultural practices and replace practices that they previously thought were superior. The yield assessment results indicate that farmers' adoption rates of GAP are continuing to improve. The GAP training covers topics such as the project's seed distribution process; seed storage; seed handling; and planting techniques for maize, groundnuts, beans, and cassava.

Table 10 lists the numbers of beneficiaries and the numbers of training programs held in each county and state during the reporting year, disaggregated by sex. The project applies a training of trainers approach. Representatives of FBOs participate in the training and are expected to transfer the knowledge and skills they gain back to other members of their group.



Photo: Michael Godfrey, Abt Associates

Farmers learning best agronomic practices at a demonstration plot

Table 10: List of Payam-Level GAP Trainings Conducted in FY 2014

| County | No. of Trainings | No. of Beneficiaries | | |
|-------------------------|------------------|----------------------|--------|-------|
| | | Male | Female | Total |
| Central Equatoria State | | | | |
| Yei River County | 11 | 457 | 242 | 699 |
| Morobo County | 17 | 572 | 234 | 806 |
| Kajokeji County | 10 | 307 | 255 | 562 |
| Total | 38 | 1,336 | 731 | 2,067 |
| Western Equatoria State | | | | |
| Yambio County | 7 | 180 | 102 | 282 |
| Maridi County | 7 | 90 | 35 | 125 |
| Mundri County | 12 | 235 | 112 | 347 |
| Total | 26 | 505 | 249 | 754 |
| Eastern Equatoria State | | | | |
| Torit County | 4 | 76 | 141 | 217 |
| Magwi County | 4 | 74 | 81 | 155 |
| Ikwoto County | 2 | 65 | 29 | 94 |
| Total | 10 | 215 | 251 | 466 |
| Overall Total | 74 | 2,056 | 1,231 | 3,287 |

5.2. TRAINING NEEDS ASSESSMENT FOR EXTENSION SERVICES

Currently, the status of extension services in South Sudan is poor. Rural smallholder farmers receive very little public sector support. To address this issue, the project has developed an extension services program that includes 3 state-level, 9 county-level, and 27 payam-level extension workers. The Payam Extension Workers have approximately two years of work experience with the project. They have received basic agronomy training from FARM but need further development to enhance their skills and to broaden their role on the project.

To assess extension service needs and to better understand the current capabilities of its extension program, the project contracted a consultant to carry out a training needs assessment (TNA), which concluded at the beginning of this reporting period. In addition to assessing the current situation, the TNA was designed to develop an extension training program based on identified critical training needs. This training program will enable the project to deliver better extension services.

The assessment made a number of recommendations for improving FARM's extension services. Key recommendations included the following, which would facilitate expansion of the extension program:

- Using motivated farmers to provide extension services to other farmers
- Relying on well-established FBOs to introduce the project's concepts to new groups
- Conducting more up-front work to strengthen farmer organizations as soon as they join the project
- Instilling more participatory planning between project management, extension workers, and beneficiary farmers, including simple value chain analysis for selection of crops and preparation of basic enterprise plans at the FBO level
- Increasing farmers' participatory involvement in supervision, follow-up, and monitoring and evaluation of project activities

The consultant developed a number of training models to enhance the skills of extension workers, covering areas such as project management, farmer organization and community empowerment, planning with farmers, extension methods, marketing, and monitoring and evaluation. Due to the conflict in South Sudan during FY 2014, the project was not able to fully implement a number of these recommendations or carry out the extension training programs. However, FARM plans to use the TNA report to strengthen extension services during FY 2015.

The scale at which FARM has worked in its first four years has been both sufficient and successful, given its first-of-a-kind nature, the region targeted, and the challenging context of South Sudan's overall development in recent years. Still, using the FY 2014 participation figures, the project is directly impacting only about 9 percent of farms in the targeted counties and about 4 percent of farming households in the three Equatoria states. While this is a good start, FARM understands the need to reach significantly more households with technology and training packages. This has driven the project's consideration of mobile telephony applications and the recent investments in technical assistance for designing and piloting these applications. FARM has also reviewed and revised its approach for using the existing 27-part radio broadcasting messages on farming practices (in 10 local dialects) to test ways to reach more farmers indirectly. The project is holding discussions with media and mass communication partners and NGOs in South Sudan on how to best deliver training through these new indirect approaches and, importantly, on how to measure their efficacy. The hope is that these indirect methods for reaching farmers at a larger scale would then be incorporated into the future work of this or other agriculture development programs.

5.3. POST-HARVEST HANDLING AND STORAGE MANAGEMENT TRAINING

Post-harvest handling and storage management is very important to South Sudan's agricultural sector, as some estimates show that up to 35 to 40 percent of smallholder farmers' harvests is lost to spoilage and mishandling. To help reduce these losses, the project continued to provide training in this area during the reporting period. The main objectives of the training were to ensure that trainees understand the basic principles of food storage practices, provide them with sound technologies and practices for post-harvest handling and warehouse management, and enable them to identify and mitigate major sources of loss. Improved post-harvest storage will help farmers increase the volume of produce they can sell, and improved quality will assist them in accessing new markets and obtaining better prices for their crops.

This training primarily targeted representatives of newly formed FBOs. The training was timed to occur near the harvest season. Due to the payam-level demonstration approach, FARM's post-harvest handling training numbers in CES were impressive, with 1,521 farmers trained in this important area of farm production during November 2013. There were 43 training participants at country level sites in EES. Due to the evacuation of the project's expatriate staff, training was postponed in WES. It will recommence in FY 2015.

In addition to the training, the project developed a post-harvest handling manual during FY 2014, which will be finalized during FY 2015 and will be used for future post-harvest handling trainings.

5.4. FARMER-TO-FARMER FIELD VISITS

The project organized farmer-to-farmer field exchange visits during FY 2014 to help farmers share experiences amongst themselves and to learn from each other about the new agricultural technologies that have been delivered by the project's extension services. The farmers' field exchange visits targeted farmers who were slowly adopting the new technologies. Involving such farmers in visits to other farms helped expose 356 farmers to new technologies. These farmers were able to identify their mistakes and learn lessons; they then carried these experiences home to use in the next agricultural season.

6. CROSS-CUTTING ACTIVITIES

6.1. POLICY, LEGISLATION, AND REGULATORY FRAMEWORK

Since its inception, the project has assisted MAFTARFCRD in the preparation of 13 policy documents in a variety of areas, including development of an Agriculture Sector Policy Framework. Other documents addressed forestry, agricultural mechanization, plant protection, horticulture, soil health and conservation, training and capacity building, rural development, research, seeds, rural finance, agricultural marketing, and food security. The Agriculture Sector Policy Framework was passed by parliament. Five policies have been approved by the full Council of Ministers and are awaiting presentation to the National Assembly. The final seven are in various stages of the consultative process at the ministry directorate and stakeholder consultative levels. Table II is a status report on 13 policy document previously supported by FARM.

Table II: Status Report of Policy Documents

| Serial No. | Policy Document | Accomplishments | Comments |
|------------|--|--|--|
| 1 | Agriculture Sector Policy Framework (ASPF) | <ul style="list-style-type: none"> Policy reviewed, edited, and finalized Summary of ASPF generated. Cabinet memo developed. Economic cluster of cabinet reviewed and approved. Council of Ministers approved. Forwarded to National Assembly. | <ul style="list-style-type: none"> Policy passed by parliament on 12/12/12. Printing of policy to be completed. 1,920 copies of policy framework submitted to MAFTARFCRD in September 2013. |
| 2 | Forestry Policy | <ul style="list-style-type: none"> Policy developed and reviewed by USAID technical team. Document presented to ministry for further directions. Policy presented to economic cluster and full Council of Ministers. | <ul style="list-style-type: none"> Approved by full Council of Ministers on 2/8/13, with some amendments. Awaiting presentation to National Assembly. |
| 3 | Agriculture Mechanization Policy | <ul style="list-style-type: none"> Policy reviewed and edited. Cabinet memo developed. Passed to economic cluster of Council of Ministers. | <ul style="list-style-type: none"> Approved by full Council of Ministers on 2/8/13. Awaiting presentation to National Assembly. |
| 4 | Plant Protection Policy | <ul style="list-style-type: none"> Policy reviewed, edited, and finalized. Cabinet memo developed. Economic cluster of cabinet reviewed and passed to full Council of Ministers. | <ul style="list-style-type: none"> Approved by full Council of Ministers on 2/15/13. Awaiting presentation to National Assembly. |

| Serial No. | Policy Document | Accomplishments | Comments |
|------------|---|---|---|
| 5 | Horticultural policy | <ul style="list-style-type: none"> Policy reviewed and edited. Cabinet memo developed. Presented to economic cluster of Council of Ministers. | <ul style="list-style-type: none"> Approved by full Council of Ministers on 3/15/13. Awaiting presentation to National Assembly. |
| 6 | Soil Health and Conservation Policy (Fertilizer Policy) | <ul style="list-style-type: none"> Policy reviewed and edited. Cabinet memo developed. Presented to economic cluster of Council of Ministers. | <ul style="list-style-type: none"> Approved by full Council of Ministers on 3/15/13. Awaiting presentation to National Assembly. |
| 7 | Training and Capacity Building Policy | <ul style="list-style-type: none"> Policy reviewed and edited. Cabinet memo developed. Passed to economic cluster of Council of Ministers. | <ul style="list-style-type: none"> Policy passed by economic cluster with amendments. Awaiting amendment by MAFTARFCRD and re-submission to Council of Ministers. |
| 8 | Rural Development Policy | <ul style="list-style-type: none"> Policy reviewed and edited. Cabinet memo developed. Forwarded to economic cluster. Referred by economic cluster back to ministry for amendments. | <ul style="list-style-type: none"> Policy being reviewed by team from Directorate of Rural Development and Directorate of Planning. Awaiting comments. |
| 9 | Research Policy | <ul style="list-style-type: none"> Policy developed Document presented to directorate for further review | <ul style="list-style-type: none"> Awaiting response from directorate. |
| 10 | Seed Policy | <ul style="list-style-type: none"> Policy developed. Document presented to directorate for further review. | <ul style="list-style-type: none"> Awaiting response from directorate. |
| 11 | Rural Finance Policy | <ul style="list-style-type: none"> Drafts presented by external consultant. Ministry requested support to hold validation workshop for stakeholders. | <ul style="list-style-type: none"> Stakeholders' consultative forum to be held. |
| 12 | Agricultural Marketing Policy | <ul style="list-style-type: none"> Drafts presented by external consultant. Ministry requested support to hold validation workshop for stakeholders. | <ul style="list-style-type: none"> Stakeholders' consultative forum to be held. |
| 13 | Food Security Policy | <ul style="list-style-type: none"> Drafts presented by external consultant. Ministry requested support to hold validation workshop for stakeholders. | <ul style="list-style-type: none"> Stakeholders' consultative forum to be held. |

Due to the conflict during FY 2014, the project understands that little forward progress has been made by the government to advance these policies. The project has not provided policy support to MAFTARFCRD since the conflict broke out in December 2013, but has continued to work closely with its government counterparts at the county and, to a lesser degree, state levels. Following guidance from USAID, the project's facilitation work with the national government has been minimal during FY 2014; most interactions have been administrative in nature.

6.2. COLLABORATION AND PARTNERING OPPORTUNITIES

The development community in South Sudan was relatively large leading up to the current conflict, but expatriates from most assistance programs evacuated the country during December 2013. Many NGOs returned to South Sudan in January and February to address the immediate humanitarian crisis. However, a number of assistance organizations have not returned to South Sudan or have cut back their activities. With all staff returning to their posts in late April and early May 2014, the FARM project was one of the first USAID-funded contractors to return its expatriates to South Sudan.

As a number of donors and implementing partners continue operations in South Sudan, there are collaboration and partnering opportunities that will leverage the project's resources and capacities to optimize impact for the country. As previously discussed, the WFP's P4P program offers the most attractive opportunities for collaboration. P4P provides a significant market for smallholders' surplus production and can distribute Greenbelt produce to the country's areas of greatest need. With P4P having expressed eagerness to collaborate, the FARM project is currently working with its cooperatives to aggregate sufficient volumes for bulk sale to the WFP. The project is also facilitating linkages between the cooperative unions and the WFP by identifying sources of bulked produce and testing for and improving quality. FARM will also facilitate business interactions between the WFP and the cooperatives.

AGRA continues to operate in South Sudan. With funding from USAID, AGRA's Seeds for Development program established groundwork in the area of seed multiplication and production in South Sudan. While this particular program has been discontinued, AGRA has expressed interest in continuing to work in this area. The project and AGRA have opportunities to work together on seed multiplication and production during FY 2015.

The USAID-funded South Sudan Feeder Roads project offers an opportunity to address both the rural roads upkeep and maintenance aspect of its program and, simultaneously, the farm machinery aspects of an agriculture program like the FARM project. The South Sudan Feeder Roads project is piloting an approach used in the Democratic Republic of the Congo whereby farmer groups (in this case FBOs) agree to maintain a segment of road in their vicinity, and the road crews agree to allow periodic access and use of heavier kinds of machinery (not including fuel) for agriculture purposes. This avenue will be further explored in FY 2015.

6.3. GENDER

In order to refresh its understanding of the gender context in South Sudan's agricultural sector, the project conducted a formal gender assessment in September–October 2013. The purpose was to examine gender dynamics in the rural Equatorias, with the aim of strengthening the project's activities in the designated commodity value chains and deepening its positive impact on women. Beyond the background field research, interviews, and analysis, this assessment included:

- One-and-a-half day gender trainings for a total of 46 project staff in CES and EES, including extension workers, state coordinators, component coordinators, and support staff
- One-and-a-half day stakeholder consultations in all three states that drew 64 participants, including farmers; traders; processors; state- and county-level government officials; and representatives from the Ministry of Gender, Children and Social Welfare

These workshops helped to create awareness and foster understanding of gender, especially in agriculture, and to gather gender-related information on South Sudanese agricultural production and trade. Project staff who received gender trainings carried out field surveys for the assessment. Data was collected from men and women farmers, agricultural commodity traders, input suppliers, and micro-processors. A total of 124 respondents in 10 payams in four counties in CES and EES were surveyed over a two-day period.

The assessment documented that women represented slightly over one-third of the project's farmer participants (6,600 at the time of the assessment) and that they were being positively impacted by project intervention. There was little evidence, however, that the project was purposefully transformative in its gender approach. The project is accommodating gender in its implementation—recognizing traditional gender-based roles and tailoring programs accordingly. This is recognized as a very good minimum, especially as it avoids creating tension or conflict around women's activities in a violent and conflict-prone country. The project could at the same time be both more transformative (shifting to new and accepted roles) and exploitative (using gender-based roles to an additional advantage to achieve desired project outcomes) in its activities.

The gender assessment recommended that the project more purposefully design implementation activities to engage a greater numbers of women farmers, traders, and input suppliers, and then make a greater effort to address their practical needs related to agricultural productivity or commerce (e.g., mobile communications, banking and credit, safe travel, access to land, access to education, and available/disposable time from the household). The assessment also proposed that the project sharpen



From left: Betwel Mawa, Esther Gamba, and Mary Itate Benjamin (Chairperson), officers of the Christian Women in Action Cooperative at their sales outlet in the Morobo marketplace in August 2014

Photo: Michael Godfrey, Abt Associates

its accommodating approach and more diligently address gender equity when distributing project benefits: seeds, tools, equipment, training opportunities, and entrepreneurial opportunities. It also recommended that the project facilitate more effective women's participation in FBOs, cooperative societies, and cooperative unions. Wholly owned or directed female cooperative unions merit increased support. The project might be able to foster networks among them.

The evacuation and readjustment of the FARM project drew attention away from implementing these gender recommendations; much more remains to be done. In FY 2015, the project intends to accelerate actions to address gender equity, including scaling up the distribution of labor-saving crop processing equipment and dedicating increased support to women-led organizations. Addressing the right set of needs and opportunities will allow the project to be more gender transformative during its last year.

6.4. GRANTS

One of the tools of the project is the judicious use of grants to kick-start activities that will become fully commercial over time. The project budgeted a \$2.3 million grants program for FY 2014. Due to the conflict and discontinuation of the RSS's NEAT initiative, the program was simplified for the fiscal year. The total value of grants awarded during FY 2014 was \$788,951. **Error! Reference source not found.** provides a summary breakdown of the grants awarded by the project during FY 2014.

Table 122: Grants Awarded During FY 2014

| His Grant Type | EES | | CES | | WES | | Total | |
|---------------------|--------------------|-------------------|--------------------|-------------------|--------------------|-------------------|--------------------|-------------------|
| | No. of Grants Made | Total Amount (\$) | No. of Grants Made | Total Amount (\$) | No. of Grants Made | Total Amount (\$) | No. of Grants Made | Total Amount (\$) |
| First season seeds | 76 | \$67,750 | 173 | \$194,727 | 26 | \$135,969 | 275 | \$398,446 |
| Second season seeds | 54 | 8,155 | 112 | 5,651 | 24 | 9,022 | 190 | 22,828 |
| Plowing | 37 | 37,359 | 34 | 45,859 | 26 | 38,192 | 97 | 121,410 |
| Block farms plowing | 7 | 164,358 | 1 | 56,719 | 0 | 0 | 8 | 221,077 |
| Block farm seeds | 7 | 19,060 | 1 | 6,130 | 0 | 0 | 8 | 25,190 |
| Total | 181 | \$296,682 | 321 | \$309,086 | 76 | \$183,183 | 578 | \$788,951 |

6.4.1. Seed Grants

During FY 2014, the project issued 465 in-kind seed grants to FBOs, with a total value of \$421,274. Of this amount, \$398,446 was used to supply maize, groundnut, and bean seeds for the year's first planting season. These seeds were purchased through the Farm Inputs Care Centre and the East African Seed Company, two Ugandan seed vendors. An additional \$22,828 was used for seeds to plant sesame, millet, and rice during the year's second planting season. These seeds were purchased through Pinnacle Global, a Juba-based company. Each seed grant recipient had to submit specific key deliverables and meet

specified milestones. These included 1) land preparation, 2) seed distribution and planting, 3) yield monitoring and assessment, and 4) cost-share contributions. The project is currently working with the FBO recipients to undertake yield assessments on the harvests from both planting seasons.

The project's selected supplier for the second season did not deliver the seeds on time, despite multiple assurances that it would. The project went ahead and distributed the seeds to FBOs with the agreement that they will store them until the 2015 planting season. Consequently, the key grant milestones—land preparation, seed distribution and planting, yield monitoring and assessment, and cost-share contributions—will not take place until the 2015 planting season. FARM technical staff have advised the FBOs on seed storage and will continue to track the seeds until the FBOs complete the grant milestones in 2015.

6.4.2. Plowing Grants

The project awarded 97 in-kind plowing grants during FY 2014 to 97 FBOs, totaling \$121,410. The grants ranged in value from \$703 to \$4,125, to cover the cost of plowing 5 to 25 feddans of land per beneficiary. Of the 825 feddans (347 hectares) that were to be plowed under the FARM grants, 733 feddans (308 hectares) were actually completed. The shortfalls were the result of performance issues by local service providers or cost-share challenges with beneficiaries.



Photo: FARM project staff

FBOs engaged local ox-plow and tractor service providers to plow land using these grants. All plowing grant recipients were expected to provide a cost-share contribution. During FBO training, FARM staff explained the purpose of the cost-share contribution, reiterating that it is a short-term intervention and that farmers will be expected to pay the full cost of plowing services in the future, so that farming can become sustainable in South Sudan. The cost-share contribution was 10 percent for FBOs who used ox-plows and 20 percent for FBOs who used tractors. The project terminated one plowing grant in EES, three plowing grants in CES, and four plowing grants in WES because the FBOs could not pay their cost-share contributions.

Farmers clearing land using an ox-plow

6.4.3. Block Farm Grants

Eight in-kind land reclamation and plowing grants (with total value of \$221,077) were awarded to the following block farms during FY 2014: Tul, Lo'de, Lobone, Tamama, Harambe, Polila, and Lweny Ikom Kech in Magwi County in EES and Morsak in Kajokeji County in CES. Each block farm engaged a service provider to plow its land. Similar to the FBOs that received plowing grants, the block farms are expected to pay a 10 percent cost-share contribution if they used an ox-plow and 20 percent if they used a tractor. The project is presently finalizing payments to the service providers who delivered these services to the block farming groups

The block farms also received eight in-kind grants from the project for sesame, groundnut, maize, bean, and millet seeds. The total value of these grants was \$25,109. Since the seeds for the block farms were delivered late, the block farms will store these seeds and use them for the 2015 planting season. The project will continue to track the seeds until the block farms complete the grant milestones in 2015.



Photo: Michael Godfrey, Abt Associates

Cabbages grown as cash crops by Rainbow Cooperative Society in Morobo County. Cabbage is the most profitable vegetable crop in the region and its production nets the cooperative and its members significant income.

7. MONITORING AND EVALUATION

FARM's Monitoring and Evaluation Unit is headed by an expatriate Senior Information Officer. He is supported by a South Sudanese Monitoring and Evaluation Specialist. To collect data in the field, this team works with the project's 27 payam, 9 county, and 3 state extension officers and is supported by FARM's state coordinators. Since the extension staff serve as the project's primary enumerators for data collection, the M&E team provides a considerable amount of training, coordination support, and technical assistance to these field staff. Extension personnel have previously been trained to conduct the project's yield assessments for each harvest. They have been trained to use the project's cell phone data collection system; they are the main operators of this technology, which they use to gather market information and other M&E data. The extension staff has also been trained to serve as data collectors for other project data collection initiatives.

7.1. YIELD ASSESSMENTS

Since its beginning, FARM has conducted yield assessments of maize produced by smallholder farmers as a proxy for measuring the effectiveness of its agricultural production programs to assist smallholder farmers in the Greenbelt. These yield assessments were conducted during the two harvest seasons in the region. The first harvest generally occurs during September and the second during November each year. The significant results and quantitative information about these assessments were presented in Section 0 above.

The method used to measure yield results was through crop-cutting of three subplots in each selected farmer's fields. Each subplot measured 3 meters x 3 meters. Moisture content was measured to determine the actual weight of each crop and data were averaged to reduce bias. A total of 204 farmer plots were measured using this methodology during the second harvest season. This represented over 1.5 percent of the total smallholder beneficiaries supported by FARM; it is well above minimum statistical significance. The field team conducting the assessments considered factors such as favorable rainfall patterns, weeding, pest control, disease, and cultural practices—all of which contributed significantly to the higher yields. The project used scientific methods to analyze the data collected.

7.2. FARMER PROFILE SURVEY

FARM completed a farmer profile survey during FY 2014 (based on the South Sudan calendar year 2013 first and second season harvest) to gain more understanding of the smallholder farmers being supported by the project. The information collected in the survey included age, education level, proximity to markets and social services, household size, income sources, and farming behaviors. This data is now helping the project to analyze factors such as the distribution of farmers by age group or level of formal education. Table 13 on the following page contains a partial reporting of the most recently completed analysis.

Table 133: Key Indicators for Household Expenditure for the 2013 Season, in SSP

| | Farming Outlays | School Fees | Medicine | Clothes | Transport | Market Food | Total |
|--------------------------------|-----------------|-------------|----------|---------|-----------|-------------|---------|
| EQUATORIA | | | | | | | |
| Pooled | 264,401 | 140,503 | 94,561 | 164,834 | 94,787 | 133,181 | 892,267 |
| Men | 228,558 | 109,359 | 77,661 | 136,421 | 81,987 | 114,327 | 748,313 |
| Women | 35,843 | 31,144 | 16,900 | 28,413 | 12,800 | 18,854 | 143,954 |
| Western Equatoria State | | | | | | | |
| Pooled | 78,780 | 32,383 | 31,205 | 41,615 | 21,740 | 45,544 | 251,267 |
| Men | 75,630 | 28,351 | 27,255 | 37,385 | 19,530 | 39,449 | 227,600 |
| Women | 3,150 | 4,032 | 3,950 | 4,230 | 2,210 | 6,095 | 23,667 |
| Eastern Equatoria State | | | | | | | |
| Pooled | 77,838 | 41,199 | 23,135 | 52,214 | 31,180 | 35,574 | 261,140 |
| Men | 53,248 | 30,295 | 14,860 | 33,974 | 23,060 | 24,925 | 180,362 |
| Women | 24,590 | 10,904 | 8,275 | 18,240 | 8,120 | 10,649 | 80,778 |
| Central Equatoria State | | | | | | | |
| Pooled | 107,783 | 66,921 | 40,221 | 71,005 | 41,867 | 52,063 | 379,860 |
| Men | 99,680 | 50,713 | 35,546 | 65,062 | 39,397 | 49,953 | 340,351 |
| Women | 8,103 | 16,208 | 4,675 | 5,943 | 2,470 | 2,110 | 39,509 |

Source: FARM project farmers' profile survey, 2013

7.3. PROJECT RESULTS INDICATORS

Table 14 below compares actual FY 2014 project results to the performance indicators and targets that were established at inception. The project exceeded each of its production indicator targets for FY 2014, including those for the number of farmers who have adopted new technologies or management practices, the number of hectares under improved technologies or management practices, and the number of individuals receiving short-term productivity training. The project also met its target for the number of producer organizations assisted by the project through FY 2014.

Table 144: Monitoring of Actual Results versus Established Performance Indicator Targets FY 2014

| PROGRAM COMPONENT 1: AGRICULTURAL PRODUCTIVITY | | | | | | | | | | |
|---|--|-----------------------------------|----------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|
| Performance Indicators: Component I | Unit of Measurement, Disaggregation | Data Source | Baseline 2010 | Oct. 2010-Sep. 2011 Actual | Oct. 2011-Sep. 2012 Target | Oct. 2011-Sep. 2012 Actual | Oct. 2012-Sep. 2013 Target | Oct. 2012-Sep. 2013 Actual | Oct. 2013-Sep. 2014 Target | Oct. 2013-Sep. 2014 Actual |
| I.1 Increase adoption of improved technologies | | | | | | | | | | |
| Number of farmers, processors, and others who have adopted new technologies or management practices as a result of USG assistance | Number | Farmer, processor, trader surveys | 3,501 | 4,200 | 6,900 | 6,695 | 11,132 | 10,830 | 12,555 | 13,754 |
| Hectares under improved technologies or management practices as a result of USG assistance (yield of commodities) | Hectares | Farmer surveys | 4,556 | 4,556 | 8,694 | 5,838 | 7,589 | 4,171 | 3,203 | 4,863.6 ¹ |
| Number of individuals that have received USG-supported short-term agricultural sector productivity training | Number, gender | Project record-keeping | 849 | 3,330 | 3,960 | 3,171 | 3,963 | 5,711 | 3,769 | 11,136 ² |
| Number of individuals (women) that have received USG-supported short-term agricultural sector productivity training | Gender | Project record-keeping | 0 | 736 | 792 | 886 | 1,107 | 2,131 | 1,191 | 4,374 |
| I.2 Improve producer organization business and management skills | | | | | | | | | | |
| Number of producers' organizations, water users associations, trade and business associations, and community-based organizations receiving USG assistance | Number and type of organization | Project record-keeping | 132 | 186 | 300 | 497 | 484 | 497 | 572 | 585 ³ |

Note 1: This includes 4,401.6 hectares of FBO farmers and 462.0 hectares under block farms.

Note 2: These did not include 109 individuals, mostly males, who were from the government.

Note 3: This includes 11 block farms that the team agreed should be included as separate FBOs.

| PROGRAM COMPONENT 2: AGRICULTURAL TRADE | | | | | | | | | | |
|--|---|-----------------------------------|------------------|-----------------------------------|-----------------------------------|---|-----------------------------------|-----------------------------------|----------------------------------|-----------------------------------|
| Performance Indicators: Component 2 | Unit of Measurement, Disaggregation | Data Source | Baseline 2010 | Oct. 2010- Sep. 2011 Actual | Oct. 2011- Sep. 2012 Target | Oct. 2011- Sep. 2012 Actual | Oct. 2012- Sep. 2013 Target | Oct. 2012- Sep. 2013 Actual | Oct 2013- Sept 2014 Target | Oct. 2013- Sep. 2014 Actual |
| 2.1 Increase smallholders' access to market services | | | | | | | | | | |
| Number of agriculture-related firms accessing critical agricultural services (such as credit, veterinary services, agricultural inputs, machinery, and business development) as a result of USG interventions/assistance | Number | Farmer, processor, trader surveys | 0 | 15 | 20 | 48 | 25 | 34 | 42 | 48 ¹ |
| Volume of purchases from smallholders of agricultural commodities targeted by USG assistance ² | MT | Farmer surveys | NA | 0 | NA | 5363 | NA | 2281 | NA | 20,427.2 |
| Value (\$) of purchases from smallholders of agricultural commodities targeted by USG assistance | (\$ USD) | Project data from surveys | 0 | | 516,541 | 404,428 | 405,860 ³ | 682,015 | 800,000 | 1,591,280 ⁴ |
| 2.2 Improve and maintain critical points on high-priority trade routes [This IR has been deleted from FARM TORs.] | | | | | | | | | | |
| 2.3 Increase private sector services (including micro-, small, and medium enterprises [MSMEs]) that support marketing and finance | | | | | | | | | | |
| Value (\$) of private sector services provided that support marketing and finance | (\$ USD) | Service provider survey | 0 | 0 | 50,000 | | | 0 | 60,000 | 56,750 ⁵ |
| 2.4 Improve the legal, regulatory, and policy environment to facilitate marketing and trade | | | | | | | | | | |
| Number of policies, regulations, administrative procedures drafted, analyzed, approved, and implemented as a result of USG assistance | Number | Policy specialist | 0 | 7 | 5 | 3 finalized & approved, 5 drafted not yet approved by RSS | 0 | 7 | 8 | 7 printed by project |

Note 1: These are cooperatives, input dealers, tractor and ox-plow service providers, input suppliers (seeds and equipment).

Note 2: Volume of sales survey failed this year.

Note 2: Produce assessment conducted in EES for 800 farmers, plus cell phone data on sales.

Note 3: Data for value of \$83,520 was for 153 farmers who sold maize. Balance (\$75,608) is sale of maize by 152 farmers who reported sale of maize via cell phones.

Note 4: This is the value of maize aggregated from smallholder farmers/members by 13 cooperative societies or unions and sold to NGOs and the WFP.

| PROGRAM COMPONENT 3: CAPACITY BUILDING | | | | | | | | | | |
|---|--|------------------------|--------------------------|---|--|--|--|--|--|---|
| Performance Indicators: Component 3 | Unit of Measurement, Disaggregation | Data Source | Baseline 2010 | Oct.2010- Sep. 2011 Actual | Oct. 2011- Sep. 2012 Target | Oct. 2011- Sep. 2012 Actual | Oct. 2012- Sep. 2013 Target | Oct. 2012- Sep. 2013 Actual | Oct. 2013- Sep. 2014 Target | Oct. 2013-Sep. 2014 Actual |
| 3.1 Improve business, management, and service provision skills of private sector, including MSMEs | | | | | | | | | | |
| Number of USG-supported training events held that are related to improving the trade and investment environment, and public sector capacity to provide quality services | Number | Project record-keeping | 0 | 30 | 75 | 13 ¹ | 15 | 15 | 27 | 63 |
| Number of individuals who have received short-term agricultural enabling environment training | Number | Project record-keeping | 0 | 600 | 1,500 | 300 ² | 375 | 368 | 3,769 | 7,969 |
| Number of MSMEs undergoing organization capacity/competency assessment and capacity strengthening as a result of USG assistance ¹ | Number | Project record-keeping | 0 | 15 | 20 | 1 ³ | 3 | 6 | 6 | 8 ⁵ |
| 3.2 Improve capacity of public sector for development of enabling environment to support market-led agriculture | | | | | | | | | | |
| Number of public sector agents sufficiently trained to be qualified to support market-led agriculture as a result of USG assistance | Number | Trainer records | 0 | 105 | 165 | 179 | 200 | 103 | 150 | 387 ⁶ |

Note 1: The training events held related to improving the trade and investment environment and building public sector capacity to provide quality services is for CES.

Note 2: This short-term training was on sustainable business relations, information-sharing, and transparency in the business environment.

Note 3: The initial project expectation was that a group of businesses would be brought into the project as soon as possible to provide service support. The project soon found out that there were really no MSMEs in South Sudan. In collaboration with other partners, the project has worked with Century Seeds and Greenbelt Seeds to build their capacity to develop a seed system for South Sudan and is identifying other potential service providers for future development.

Note 4: Processing equipment for the cooperatives for value addition.

Note 5: An additional firm is to be added in EES with the split of the cooperative in Magwi County, and two cooperatives in WES.

Note 6: These included 236 executive members of cooperatives, 15 government officials, and 15 extension agents

8. CONSTRAINTS

The FARM project experienced a great deal of uncertainty and challenges during the fiscal year. The most obvious occurred during the conflict period, which started on December 15, 2013. This culminated in the mandatory evacuation of expatriate staff through late April 2014, which slowed or halted numerous project activities as logistical and capacity constraints were imposed. Even with remote management from Nairobi, management challenges persisted due to the lack of physical presence in the country. FARM's replacement Deputy Chief of Party worked four months from Nairobi with project staff in South Sudan before meeting them in person. The USAID mission was closed in Juba during the evacuation period and many counterparts and partners were also not operating in the country. This limited on-the-ground interaction, facilitation, and guidance. The security situation in South Sudan was very fluid during this period, requiring cautious and deliberate decision-making to balance project implementation with staff safety. Direct communication with staff was difficult and limited to telephone, email, and Skype correspondence. Expatriate staff were spread throughout three continents. Management and procedural controls were significantly challenged, as documentation and approvals had to be scanned and emailed or couriered between Juba, Nairobi, and the U.S., requiring several days of turnaround. Uncertainty around return and the outright closure of other USAID programs lowered staff morale, while the absence of senior managers weakened the leadership of the residual national staff team trying to sustain implementation.

The FARM project also experienced significant challenges in managing its contract. USAID mission personnel were curtailed and similarly evacuated. Staffing did not return to full operational level during the fiscal year. Normal administrative and technical approvals were delayed.

With a large number of staff turning over and with a new security management subcontract arrangement to add to the program, the project's rhythm of implementation slowed measurably and there was an increase in senior management time spent on troubleshooting and accommodating mission requests.

During the second half of FY 2014, Abt was advised to anticipate and plan for a sixth year of implementation. However, Abt has not received contractual authorization or specific direction from USAID regarding follow-on work beyond FARM's February 17, 2015 termination date. This required FARM to be simultaneously focused on preparing for project closedown and maintaining existing activities for potential follow-on. The uncertainty and lack of specificity prompted a number of professional staff to depart the project for other opportunities (as is typical during the last six to twelve months of a finite-term project).

FARM's response was to diligently pursue re-staffing, modify the project and its operations to fit the changing South Sudan context as best as possible, and maintain project gains wherever possible. The goal is for past success to be used to establish a firm foundation for future work, and, since FARM was one of USAID's larger implementing partners allowed to continue work, to provide the Mission with accurate and reliable information on its activities and its region of operations. Operational challenges that occurred during the year included the termination of eight of 97 plowing grants, as some beneficiaries were unable to contribute to their small co-payment as required in the grant agreement or tractors were not able to plow some selected land in time before the planting season. These issues had also occurred in previous years, however, and were therefore expected. The project engaged in a small seed procurement for the second planting season in July/August. The vendor was unable to fulfill its order in time and therefore this seed missed the 2014 planting season. It has been stored, and will be

used instead for the 2015 planting seasons. An additional challenge caused by the conflict was the postponement of the project's Integrated Pest Management program, which had been planned for FY 2014. The consultant who had been arranged to lead this activity is completing several reports in FY 2015 that were initiated during the previous year.

9. RECOMMENDATIONS

The gains produced by the FARM project since inception in 2010 have been significant. Its network of 574 FBOs and over 13,000 farmers, as well as the trust and reputation the project developed in the Greenbelt are its biggest assets. Even in a fragile security environment, momentum continues as surplus production continues to increase and nascent efforts to aggregate and bulk sell smallholders' harvest are progressing. As the current FARM nears completion, it puts forward the following main recommendations for operations beyond FY 2014.

- Continue FY 2015 seed distribution. The FARM project strongly recommends continuation of the 2015 seed distribution program, as the next planting season will begin late March 2015. A great deal of momentum and goodwill will be lost if the program does not complete the anticipated distribution. FARM has already begun to develop its seed procurement and distribution plan for 2015, because it takes several months to coordinate with farmer groups, collect and consolidate farmer data, and procure seed in East Africa through a competitive process.
- Increase scale. Early experience indicates that a wider range of participants can and should be established in the Greenbelt to increase the efficiency and cost-effectiveness of delivering agricultural development services to farmers. FARM intends to mount a media/radio campaign on farming and good agriculture practices. This intervention should be implemented. It will build off the announcements already recorded on 27 topics and in all the local dialects in the zone. Delivering services through cooperative unions and larger farmer groups (as opposed to a narrower FBO focus) offers another opportunity to increase the scale and efficiency of project support.
- Expand geographic area. The project has not expanded from its original geographic area, which was established during its first year of operation. FARM understands that payams and counties not currently being served are quite interested in similar support. New payams and counties in the Greenbelt (with close access to roads and urban market) should be considered for project expansion using already-developed staff, materials, and systems.
- Intensify development of farmer organizations. Farmer organization development—including cooperative societies, cooperative unions, and related farming intermediaries—is a core element of FARM's plan to build agricultural value chains in South Sudan. Additional management, operational, marketing, and technical assistance is needed to help these organizations become sustainable. These organizations' advancement can be expedited through technical assistance and grant support to augment members' investment in value-addition processing equipment and in transport and storage.
- Support infrastructure improvement. FARM recommends further collaboration with road and infrastructure programs currently working in the Greenbelt, with the goal of linking more farmers to markets. The project also recommends the construction of crop aggregation and sales points in each payam. These points will essentially be small, covered, open-air facilities with a concrete floor where farmers can deliver surplus produce for sale and aggregation by a cooperative society, cooperative union, or private buyer.
- Promote seed multiplication. Lack of seed multiplication capacity in South Sudan is a significant constraint to agricultural production in the country. Most farmers have been planting farm-saved seeds kept from previous seasons or seeds given by development organization through grants. AGRA, with USAID support, started seed multiplication work in 2012. However, this work

ended within the past year due to the current conflict in South Sudan. Under South Sudan's current economic and security context, FARM recommends that seed multiplication and production work be started again, using a more bottom-up approach to help farmer groups produce and market quality seed for local use in South Sudan. This approach would focus more on developing informal seed markets rather than on large-scale commercial development (as planned by the AGRA model, which primarily focused on supporting three potential seed production ventures in South Sudan).

- Enhance gender equity activities. The FARM project completed its gender assessment and staff training by a gender consultant during early October 2013 (at the beginning of FY 2014). The December 2013 conflict and subsequent evacuation of expatriate staff broke momentum and advances in this important area of the project during the remainder of the fiscal year. Due to these circumstances, FARM focused on holding onto essential existing programs such as the annual seed distribution and related GAP trainings, cooperative union development initiatives, and block farm programs. This drew FARM's attention away from implementing gender-specific activities during FY 2014. The project recognizes that it could be both more transformative (shifting to new and accepted roles) and exploitative (using existing gender-based roles to an additional advantage to achieve desired project outcomes) in its activities. FARM recommends accelerating actions to address gender equity, including scaling up the distribution of labor-saving crop processing equipment and dedicating increased support to women-led organizations.
- Engage youth in agriculture. In response to the current conflict in South Sudan, the project suggests that youth in agriculture be included as a cross-cutting initiative. Youth represent a large portion of the rural population in South Sudan. Currently, few economic opportunities exist for rural youth, leading them to migrate to urban areas or engage with military forces. In general, youth are far better than adults at adopting new technologies and changing their behaviors. Youth also represents the future of agriculture and agribusiness in South Sudan. The project believes that more youth-specific interventions should be incorporated into agricultural development support in South Sudan for 2015. These could include agriculture vocational training; entrepreneurial assistance and promotional programs; support grants for seed, extension, and farming equipment; and school gardening programs.
- Strengthen/expanding extension services. The status of extension services in South Sudan is poor. Rural smallholder farmers receive very little public sector support. Because of this void, FARM developed an extension services program, assigning an extension agent in each payam supported by the project. Extension workers are provided with motorcycles so they can work closely with farmers and FBOs. These payam extension workers now have approximately two years of work experience with the project and have received basic agronomy training. However, further development is needed to enhance their skills, broaden their roles, and help them reach a wider set of farmer groups in their assigned payam areas.
- Increase collaboration. A number of donors, international not-profit humanitarian assistance organizations such as Catholic Relief Services (CRS) and World Vision, and implementing partners such as Tetra Tech (USAID) and AGRA (Netherlands) continue operations in South Sudan. They present partnering opportunities that can leverage the project's resources and capacities to optimize impact for the country. The WFP's local purchase program represents a significant market for smallholders' surplus production and can be used to distribute Greenbelt produce to the country's areas of greatest need. AGRA established the groundwork in seed multiplication in South Sudan and has expressed interest in working together on seed multiplication and production going forward. Collaboration can also be done with humanitarian organizations such as CRS that are also working in agriculture.

- Advance ICT. There are opportunities to expand FARM's mobile phone data collection program in the Greenbelt. FARM recommends continuing to develop a mobile application that will report on market prices for major grain crops in up to a dozen urban areas in the Equatorias. The project also recommends that its SMS message work with cooperative unions be continued, to help the unions better communicate with local farmer organizations and individuals farmers about sales opportunities for the group.
- Intensify monitoring and evaluation. Going forward, efforts should be made to advance monitoring and evaluation in the program going forward. Yield assessments should expand into other FARM crops beyond maize, incorporating such staples as groundnuts, beans, and cassava. To improve quality, more sophisticated assessment methodologies, such as control group sampling, should be introduced. The project should add counterfactual sampling to its assessments to begin to measure impact between participating and non-participating households. FARM also recommends a comprehensive evaluation of the current status of agriculture in the Greenbelt to inform the future direction of agricultural support in the country.